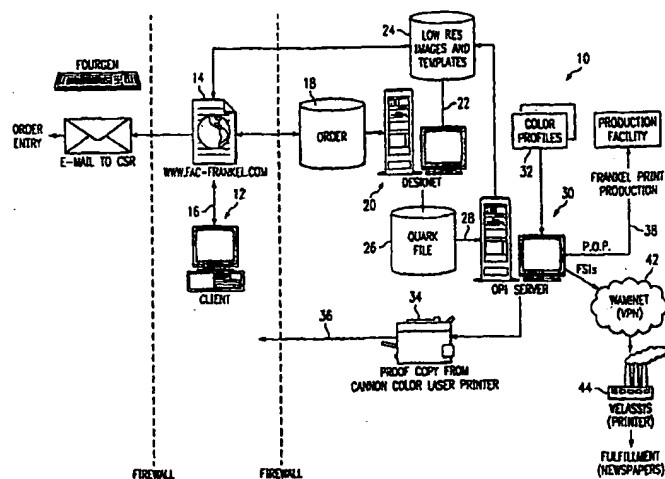




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>6</sup> : <b>G06F 17/21</b>		<b>A1</b>	(11) International Publication Number: <b>WO 99/63452</b>
			(43) International Publication Date: 9 December 1999 (09.12.99)
(21) International Application Number: <b>PCT/US99/12179</b>		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).	
(22) International Filing Date: 1 June 1999 (01.06.99)			
(30) Priority Data: 09/088,173 1 June 1998 (01.06.98) US			
(71) Applicant: F.A.C. SERVICES GROUP, L.P. [US/US]; 111 East Wacker Drive, Chicago, IL 60601 (US).			
(72) Inventors: SPARKS, Don, R.; 914 North Michigan Avenue, Evanston, IL 60202 (US). SCOTT, M., James; Apartment #2300, 151 North Michigan Avenue, Chicago, IL 60601 (US). TREMEL, Wally; 727 S. Dearborn, Chicago, IL 60605 (US).			
(74) Agent: PERKINS, Jefferson; Foley & Lardner, Suite 3300, 330 North Wabash Avenue, Chicago, IL 60611 (US).		Published With international search report.	

(54) Title: DESIGN AND PRODUCTION OF PRINT ADVERTISING AND COMMERCIAL DISPLAY MATERIALS OVER THE INTERNET



**(57) Abstract**

A client at a remote site may order each of a series of images from a low resolution image database, and may then assemble these images and text into a marketing piece. Once assembly is complete, the client orders the system proprietor to produce the marketing piece according to the client's specifications. The client communicates to the system proprietor via a web site on the Internet, which has associated with it a pair of applications for the ordering of images and the assembly of marketing pieces. The client assembles the marketing piece according to one of a series of predefined templates, which constrains the choices which the client has such that the produced marketing piece will have the look and feel dictated by the client's company. The templates, each of which has associated with it a series of slots for the placement of image or text, also permit easy assembly of a marketing piece by simply specifying the material which goes within the slot. A catalog of low-resolution images are sent over the Internet to the client for his or her consideration, and a corresponding set of high-resolution images are used to produce the marketing pieces.

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakhstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

09/762578

JC05 Rec'd PCT/PTO 07 FEB 2001

**DESIGN AND PRODUCTION OF PRINT ADVERTISING AND COMMERCIAL  
DISPLAY MATERIALS OVER THE INTERNET**

**TECHNICAL FIELD OF THE INVENTION**

5 The invention pertains to the general field of print advertising and commercial display signage and their design and production, and more specifically to an integrated system using an Internet site and networked computer systems for the storage of pre-designed formats and images, the assembly of them into electronic files ready for production, and the ordering of all design, assembly, production, and distribution (and, if required, placement in a publication, including purchasing of space) from a single entry point in the system.

## **BACKGROUND OF THE INVENTION**

Typically, the development, production, and distribution of print advertising and commercial display materials require at a minimum the following steps.

5        Formatting. A format is established defining materials, dimensions, number of colors, etc., that will be compatible with where the advertising or display is to appear.

Copy Development. Copy is written to fit the format.

Design. The advertising or display materials are laid out, colors chosen, and graphics planned.

Typesetting. Copy is set in type.

10       Graphics Development. Any required illustration or photography is prepared.

Preparation of Finished Artwork. The type and illustration or photography are assembled into artwork from which the advertising or display materials will be produced.

15       Delivery for Production. The artwork is delivered to a production vendor or facility, typically a printer; or, in many cases, the artwork may be distributed to more than one production vendor or facility for production in more than one locale.

Production. The production vendor or facility produces the material from the artwork.

20       Distribution (may include Finishing Steps). The finished material is then distributed to end users, customers, or prospects in any of several possible ways (for example, as an ad or free-standing insert in a publication such as a newspaper or magazine; to a lettershop or other processor to be packaged and mailed in a direct-mail package; to commercial enterprises to be displayed (as signage), handed out (as flyers), or used for sales presentations (as sales literature); and so forth.)

25       Ordering and Approvals. These are steps that, typically, must be taken at several stages in the process (for example, many commercial enterprises order most of this work

done through agencies or vendors such as printers; orders for delivery or distribution may need to be placed with outside services; advertising placement must be booked with publications in which advertising matter may appear; and so forth).

5      Today, many steps in the development process — design, typesetting, preparation of artwork, delivery for production — may be performed electronically, using computers, where once they were done on paper.

### SUMMARY OF THE INVENTION

The present invention is an integrated advertising piece design and production system that allows a user (or "client") to (a) place a comprehensive order, at a dedicated Internet site, for images and templates used for the design, assembly, production, and distribution of print advertising and/or commercial display materials; and (b) create an assembled image of the final product on the computer screen using pre-designed formats and images stored on a server in the system. Upon final approval by the client to proceed, the system can also transmit an electronic file of the product to a production vendor or facility for production and transmit all orders or notifications necessary for distribution, insertion in publications and other fulfillment tasks, etc.

Advantages to the client include greatly reduced time to develop print advertising and/or commercial display materials, since choosing from an existing menu of formats and images eliminates many time-consuming steps (creation of original art and copy and setting type, for example), and reduced cost, through elimination of the many people, steps, and agencies normally involved in developing materials of this type, which traditionally include typesetters, illustrators and/or photographers, agencies and representatives.

By minimizing or eliminating the need to create new copy and artwork every time new signage or advertising is needed, and bringing all steps in the process under the immediate control of a single computer operator, the invention can reduce the time usually required for advertising and display development from several weeks to a few days or even hours.

The present invention enables even modest business organizations to create their own high-quality advertising and display materials at a minimum in time and cost.

The key to the cost and time savings with the disclosed system is its stored, pre-created library of images and templates that can be quickly and efficiently assembled by a client or user of the system.

The client accesses the system through a World Wide Web site and places an initial order describing the advertising or display material (the "product") that the client wishes to develop and any other details relevant to the product's production, distribution, and/or insertion in a publication, such as how and by which vendor(s) the product is to be produced, how and where distributed, when and where it will appear, and any special instructions for the purchase of advertising space. Once connection is made to the system, all orders which had been placed through the system are also transmitted, either electronically or through a manual system, for distribution and billing purposes to an order-entry system that is integrated with the entire accounting system of the system provider.

From the Web site, the client's order is routed to an image manager software application (such as Open Progress Interface (OPI™), residing on an image manager server, for the management of low- and high-resolution images. The low resolution images have the advantage of being relatively small files, easily transmissible over conventional modems and telephone lines, and are used to assemble composite advertising pieces. The high-resolution images each correspond to a respective low resolution image and are used to produce the product once finally designed. From the image management server, the client selects low resolution templates and images (text and graphics) and assembles them, using an image assembler application such as Desknet™, into the image that will ultimately be produced as the finished product. Within limits set by the system, the client can also create custom text specific to the client's needs, such as prices, and store locations and site-specific information. At all times when working in the image

assembler application, the client is able to preview the assembled components as they will appear in position in the finished product.

When the client has created the assembled image of the product as it is to appear, the client saves the final image as a low-resolution assembled image to a memory (the "low resolution repository"), which in one embodiment is a discrete memory space on the image manager server. From the image manager server, a medium-resolution image of the product is transmitted to a color-corrected color printer and printed out. The printed image is sent by a delivery service to the client for approval, and the client contacts the system proprietor by either electronic mail or telephone to confirm approval to execute the order in full or request changes. As an alternative to reviewing a medium-resolution printout of the assembled image, to save time the client may request that a lower-resolution representation transmitted from the image manager server directly to the client's computer by electronic mail or electronic file transfer.

Once the system proprietor has received client confirmation of the assembled image and approval to execute the order in full, the proprietor uses the client-selected image and template data in high-resolution form, which is available from a high-resolution repository on the image manager server of high-resolution images and templates, to create a high-resolution copy of the low-resolution assembled image. The high-resolution assembled image file is submitted to a color correction application such as Color Profiles™ through the image manager server to assure color correctness and consistency with other materials produced using the system. The color-corrected high-resolution assembled image file is then transmitted from the image manager server to a production vendor or facility for final production and distribution as described in the client's order.



Production and distribution will take different forms, depending on the type of product created for the client and the requirements specified in the client's order. Two types of end products are free standing inserts (FSI's) and point-of-purchase displays (POP's).

5 For freestanding inserts, an order to purchase space in the publications where the inserts will appear is transmitted from the order-entry system at the time that the system proprietor receives the final client approval to execute. Concomitantly, the high-resolution assembled image file is transmitted (normally via a Virtual Private Network to facilitate large-volume transmission with a high level of security) to a commercial printer  
10 for printing and distribution to publications.

For point-of-purchase displays, the high-resolution assembled image file is transmitted electronically to a commercial production facility or vendor (via a Virtual Private Network for security purposes if a vendor other than the system proprietor is used). Here it will be produced and all further arrangements executed for distribution of  
15 the product either to end users (e.g., merchants) or to their agents.

**BRIEF DESCRIPTION OF THE DRAWINGS**

Further aspects of the invention and their advantages will be discerned in the following Detailed Description when taken in conjunction with the drawings, in which like characters identify like parts and in which:

5       FIGURE 1 is a high-level schematic diagram of an advertising piece design and ordering system according to the invention;

FIGURE 2 is a flow chart showing a procedure for ordering images a using the system of the invention;

10       FIGURES 3-10 are views of sequential image order screens used by a client in selecting and ordering images later to be assembled into advertising pieces;

FIGURE 11 is a schematic diagram of the internal organization of a representative shell used according to the invention;

FIGURES 12a and 12b are a client procedure for assembling a marketing piece from preselected images according to the invention;

15       FIGURES 13-29 are the record formats used by the system in providing a finished advertising piece;

FIGURES 30-38b are successive screen shots of a marketing piece image ordering and design system according to an alternative embodiment of the invention, particularly focusing on image retrieval;

20       FIGURES 39-53 are successive computer screens presented to a client in a marketing piece design methodology according to the invention; and

FIGURES 54-62 are successive screens presented to a client during the process of designing a free-standing insert according to the invention.

**DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS**

In FIGURE 1, an automated marketing piece design and production system is indicated generally at 10. The system shows the interrelationship between a system proprietor, such as an advertising agency, and a client of that system proprietor. The client has a personal computer 12 which can be of a conventional type. The personal computer 12 has a modem connection and a browser such that the client can access a web site 14 which is mounted on a host computer. In the illustrated embodiment, the link is performed by a conventional telecommunication line 16. The web site 14 has associated with it all of the customer order logic (a processor and a stored computer program having executable instructions for the processor) necessary for a client to order a series of images for assembly into a marketing piece, and also has a design logic application which permits the client to assemble these images into such marketing piece and then to order its production by the system proprietor.

Through the web site 14, in a procedure which will be later detailed, the client places orders 18, first for images and later for an assembled marketing piece, which orders are passed to an image assembler 20. The image assembler 20 can be image assembler software, such as Desknet™, as installed on an appropriate server. The image assembler 20 has a link 22 to a memory or repository 24 that stores a series of low-resolution images and templates. Some of these low-resolution images and templates will be available to the client, depending upon the identity of the client and the organization to which the client belongs; the memory space 24 may be partitioned among several different organizations, such that the client would have access only to those images which the organization has authorized in advance.

The image assembler 20, which is linked to a high-resolution image database and image processing program such as QUARK™, produces an assembled image file 26

which is sent via a link 28 to an OPI server 30. The OPI server 30 has mounted thereon further image processing software which receives the high-resolution file on link 28. The high-resolution file is color-corrected with the use of color profiles stored at a memory 32. The high-resolution file may be sent to a color laser printer 34 to generate proofs, which are transmitted back to the client via pathway 36. While in the present embodiment insufficient bandwidth exists for the transmission of high-resolution image files back to the client computer 12, it is contemplated that such bandwidth will eventually become available, as by the use of optical fibers, television cable links or the like. In that instance, pathway 36 would become optical or electronic and would allow for the rapid transmission of the high-resolution file of the finished product back to the client computer 12 for the client's review and approval.

Once the client has approved of the finished product, the work order is fulfilled. In the instance where the system proprietor has its own production facilities, this can be by pathway 38 to a production facility 40. The production facility 40 may be localized or may be made up of a geographically dispersed network of printers which simultaneously publish the piece at each of their locations.

Alternatively, a virtual private network 42, such as Wam!Net™, may be used to submit the file to an outside vendor 44 for fulfillment of the marketing piece in this fashion.

FIGURE 2 is an overview of the procedure used by client in designing and ordering an advertising or marketing piece. The client first logs onto the system at step 50 and is presented with various web objects at 52. At step 54, the client selects the search criteria for retrieving low-resolution images, executes the search, reviews the low-resolution images and their high-resolution hardcopies, and selects from a number of different marketing piece shells. The client reviews the shell results at step 56. Once the

individual shell(s) has been ascertained, at step 58 the client selects the particular slots in the shell which the client would like to customize. Image and text elements are retrieved and inserted into the shell slots at step 60 until a low-resolution assembled image of the product is reviewed at step 62. Once the assembled marketing piece is approved, the client determines distribution information at step 64. The order is confirmed by the client at step 66. An order 18 is placed through email to the system proprietor and, responsive to receiving the order, is produced and fulfilled by the system proprietor or its agent.

The sequence by which a client orders images is more particularly described by FIGURES 3-10, which are successive screens used by the client in searching for and selecting different images that are a part of the low-resolution image database.

FIGURE 3 in particular shows an introductory screen 69 in which the client signs on by giving his or her username 70, group password at 72 and user password 74. The client has several options he or she can take: searching for shells, templates and images, by clicking on button 76 with a mouse; browsing through retrieved shells, templates and images, by clicking on button 78; placing retrieved images in a "shopping cart" for purchase, by clicking on button 80; completing the image retrieval transaction by clicking on checkout button 82; or going into a tutorial by activating button 84. The introductory screen 69 also includes links to pages on news, help, contacts, registration, and the web site index at 86. The "sign up" icon 88 is also a link, and brings up a new user request page 90 (FIGURE 4) by which certain client data are entered, including shipping information of requested images.

FIGURE 5 is an illustration of a search request page 92. At 94, the user name and session number are displayed, so that the client has a reference to this particular session. The session number permits the client to determine the status of an order after a

session, and also permits the system proprietor to keep track of the delivery of the order. At 96 are links to other areas of the site.

The search page 92 shows three ways to search for images: by keyword at 98, by category at 100, or by icon at 102. Using the keyword method, the client can type in the words which describe the image(s) sought to be retrieved, such as "chicken". It is also possible to type in an image ID number in this field, which is uniquely assigned to a particular image stored in the image database of the system. In the category method 100, one of a plurality of image categories, e.g., images which depict chicken are chosen from a drop down menu. Finally, using the icon method 102, the client can point to and click on any of series of image icons 104 which are miniature and representative views of the type of image placed in each category.

At location 108 of the search screen 92 is a menu which permits the client to determine how many images should be retrieved in response to the query. Selecting fewer images might be an advantage because then there are less retrieved image descriptions to review. Selecting more images may be faster if the image desired has particular and uncommon characteristics. After determining amount of returned potential images, the client clicks on "search" at either location 110. The system then goes to a results page 112, which is shown in FIGURE 6.

It is possible that the search argument submitted will produce more than the desired number of results and that the search needs to be narrowed. The client may modify the search to narrow the criteria at location 114. For example, a broad search for "chicken" may be narrowed by adding "sandwich" to the search.

The search returns a number of image descriptions responding to the search criteria. Each of the image descriptions includes (1) a "thumbnail" image 116 of limited size and resolution, an image ID number 118 which uniquely identifies this image as

opposed to the others stored in the image database, and (3) a set 120 of keywords which can be used by the client to more quickly access the image in future searches. For each of the retrieved image descriptions, a "see details" link 122 is provided which will transfer the client to a page that gives more details about the image.

5           The screen 112 once again displays the search icon 76, the browse icon 78, the "cart" icon 80 and the "checkout" icon 82. The search icon 76 permits the client to start a new search and links the client back to search page 92 (FIGURE 5). By clicking on the browse icon 78, the client can review the image descriptions that he or she has retrieved. The "cart" icon 80 links to a shopping cart page and permits the client to review the  
10           images that he or she has already selected for purchase. The checkout icon 82 links the client to a checkout page to finalize the image order.

FIGURE 7 shows a "details" screen 124 in which a bigger and more detailed image 126 is displayed for the client's review. The client may also ascertain the size of the image as it would appear in, e.g., printed materials at field 130, and the price of the  
15           image at field 132. The screen 124 has an "add to cart" icon 133 in case the client decides to purchase the image and a "back" link 134 which returns the client to the search results screen 112 (FIGURE 6).

FIGURE 8 is a shopping cart screen accessed by icon 80 in, e.g., FIGURE 6. The "cart" screen 136 includes a link 138 which sends the client back to the search screen  
20           92 for the retrieval of other images. A "check-out" field 140 may be clicked on, which will link the client to a check-out page.

Certain items of information need to be filled in by the client before check out may proceed. The first criterion to be decided by the client is how the image should be received, with downloading, disk and transparencies all being options. This is done at  
25           142. Other information needed for check-out includes the quantity of images desired,

which shipping address to use, what specific country the image is for, what type of media the image will be placed in, the color profile, and a file format (Mac or Windows). At location 144 on the screen, the client may click on a "modify order" link to modify any of the above information, remove the item from the cart, or see more details about the item.

5 Pressing on the check-out icon 82 in screen 136 links the client to a confirmation page 146, which is illustrated in FIGURE 9. This confirmation page details the image and ordering information which the client has entered. If the information is correct, the client can proceed to order the images. If the information is incorrect and the client wishes to add or subtract from his or her order, this screen presents a last opportunity to do.

10 The order may be placed by clicking on the "final confirmation" button 148. Clicking on the "back" button 150 permits the client to change the order or to cancel it altogether.

Clicking on the "final confirmation" button 148 links the client to a "complete" screen 152 (FIGURE 10). The screen 152 sets forth all of the final details of what the client has ordered; the client may print this page out and keep it. If an image has been  
15 ordered by a download method, at this time the client can click on a "download" button 154 to receive the image over the Internet. Once the "complete" screen 152 is reached, an image is available within the next twelve hours for the client to download via file transfer protocol (FTP).

20 The Image Catalog is the dynamic, digital version of the "decision tree" compiled by the inventors. The contents of the Image Catalog are taken from an Image Database (IDB) which makes the catalog "dynamic." The Image Catalog is the software for interpreting that data and presenting it in a structured and logical way.

The Image Catalog is meant to be a catalog in the true sense: presenting the entire  
25 range of choices and options for selecting and configuring a marketing piece. An



individual marketing piece is represented as a composite as it is built. A composite contains one client's set of selections and the single resultant marketing piece. The Catalog contains the options of what is available when building a composite.

5 Every record from the database is represented as an object in the Catalog. The database contains images, text, templates, the objects used to relate these, and other objects.

10 A content object is one of image, template, or text. A content object is designed to be contained within a slot. Since a template both contains slots and may be contained in a slot, nesting of content is allowed. Note, however, that no template may occur more than once in a shell: circular nesting is not allowed.

Content (images, templates, or text) may be associated with any number of slots. An image, for example, may be valid on a page of both a regular and an Oil-Alliance FSI as well as in a POP Kit.

15 Since a template without content chosen for its slots is not complete, the most deeply nested template must only have images or text contained in its slots. I.e., the "leaf" content of the tree of objects must be either an image or text. A template is always a branch in a tree and branches always end in one or more "leaves." (For the purposes of the above, a template that has no slots — and hence no dynamic content — is the same as an image and is a "leaf" in a tree.)

20 Since an image or text object can be associated with any number of slots in any number of templates in any number of page-slots in any number of shells in the Image Catalog, it is the archivist's responsibility to keep track of these associations and be efficient about re-using objects so that, as much as is practicable, only a single representation for a given image asset resides in the database.

One of the objectives in the design of the Image Catalog is to leave as much freedom and control in the hands of the creative teams as possible. It is still the creative team who decides which images should be allowed on which templates and who designs the combinations of images and specifies in what combination they are allowed to be used.

The archivist abstracts this information and encodes it into the Image Database. The archivist encodes the rules that allow the Image Catalog to build its "trees" of associated objects. Thus the archivist is responsible for adding slots to templates and also specifying a slot's search criteria. A slot's search criteria selects for items in the image database (IDB) that the creative team has specified should be made available for the location on a template occupied by that slot. In addition the archivist maintains the keywords associated with objects in the IDB, the "headline copy" for those objects (as approved by the client), information from the original high-resolution database documents needed for on-the-fly composition, and other auxiliary information.

Part of the design of the Image Catalog and hence the data stored in the IDB is to make the final Web Application as data driven as possible without compromising the integrity of the IDB nor biasing its content toward any particular application. The data-driven aspect of the web application makes the addition of new marketing pieces easy: in many cases no new programming is needed at all, the new data are simply entered by the archivist.

FIGURE 11 is a diagram of a shell architecture. The architecture shows constraints placed upon the client in the design of marketing pieces. One of the objectives of the invention is to permit clients belonging to a particular organization to be able to design their own marketing pieces, yet do so within constraints imposed by the organization on the type, style, look or feel of the advertising piece. Where there are

multiple clients within large umbrella organizations, it is important to protect and enhance the uniform image which the organization projects to the public by setting uniform standards for advertising pieces.

The highest level of organization for the framework of a marketing piece is a shell shown schematically at 160. The shell corresponds to a type of entire marketing piece, such as any of a variety of free standing inserts or a point of purchase display kit. The shell 160 is a logical construct. The shell 160 contains one or more page slots 162, 164. Although a shell per se has no static content, such as images or text, the shell may nonetheless be associated with a thumbnail image in the low resolution database. The thumbnail image (not shown) usually does not represent any actual marketing piece, but rather provides a visual impression of marketing pieces of the type represented by the shell 160.

Page slots 162 and 164 can only contain a "template"; no other type of content is allowed. Each page-slot represents a single page of a shell, and corresponds to a single page of print material for those pieces designed to be printed. A particular page-slot is associated with only one predetermined shell. A simple freestanding insert or "FSI", for example, has two pages, a front and a back. In FIGURE 11, a simple FSI shell 160 has a front page slot 162 and a back page slot 164, provided respectively for the front and back sides of a single piece of paper. Page-slots have no location other than page number. Page-slots 162 and 164 are logical constructs that permit for the description of particular pages of multi-page marketing pieces, or single pieces of multi-piece point-of-purchase display kits. Since a page-slot has no dimensions, the template (described below) selected by the client to occupy the page-slot determines the size of the page.

In response to a browse command or other request from a client, the client will be presented with a list of templates that are suitable for placement in the particular page-slot

identified by the shell; only certain templates will meet the criteria. In the structure illustrated in FIGURE 11, three such templates 166, 168 and 170 are available for the client to select for fitting within the back page page-slot 164. Unlike a shell or a page-slot, a template is not a purely logical construct but rather is associated with a file. A template has two types of content: static and dynamic. The static contents are fixed parts of the template and it may include images and text. For example, the legal copy on a coupon or the main image on a freestanding insert may be "static" content associated with the template. The dynamic content of a template is associated with the template's slots. A template may contain zero to several "slots". From the database's perspective, a template with no slots is essentially an image. Templates are the essential dynamic component of the image catalog. A template is a piece of partially completed artwork that is finished when the client chooses contents for the empty portions of the template, which are the template's slots.

Unlike the shell/page-slot relationship, templates are not associated with page-slots in any fixed way. The page-slot/template association does not rely upon the standard foreign-key mechanism now prevalent in relational design. Instead, the page-slots, and slots generally, have a Search Rule associated with them. The Search Rule is contained in the slot's associated file or in a "usageStyleRights" attribute for the page-slot. The Search Rule is essentially parsed as a qualifier. The advantages of this method include the ability to apply the qualifier in-memory as well as against the image database. Since the qualifiers represent a subset of standard SQL, all qualifiers can be converted into a SQL "where" clause for any relational database; hence, the qualifiers are portable across different database implementations.

In FIGURE 11, suppose that the client selects template type 168 for insertion into page-slot 164. The template type 168 has associated with it a plurality of slots 172-180.

In general, each one of the slots 172-180 specifies the type of its possible contents. In the disclosed embodiment, the recognized slot types are "image", "text" and "template". For a slot which specifies its content with a content type, only content of that type can be selected by a client in filling the slot. Slots have a fixed location within the template with which they are associated, and a slot is associated with only one template. Slots may not be moved or resized within the template. In one embodiment, the image processor can crop, scale or offset the contents chosen by the client to fit within the slot's bounding geometry. For a text slot, the client may choose, for example, an expiration date for a coupon. For an image slot, the client may choose from one of the available images in the low-resolution database; image and text objects may be associated with any number of different slots. It is even possible to use a slot to contain a further template, permitting nesting of templates.

Two types of text may be inserted into a text slot. The client may select from one of several predefined text options if the slot so directs. Other slots will define user-entered text.

The procedure by which a customer at a remote location can design a marketing piece is illustrated by the flow chart in FIGURE 12. At the beginning, at step 190, the user is given the number of shells to choose from, using a shell browser application. When the client selects the shell, the web software is notified as to which shell is being created. Page navigation is initialized at step 192, such that the client can page back and forth between the pages of the shell by the means of buttons placed within the page (not shown). As indicated at step 194, the procedure proceeds serially through each page of the shell.

At step 196, the client is given a list of templates to choose from for the page, using a template browser. When the client selects a page, at step 198 he or she is shown

an edit screen for the template as using a template editor. There is a separate backside editor module used for the generation of coupons on the backside of the end marketing piece. In either editor, the client is shown a list of slots at step 200 and the web application gives the appropriate edit control for each of the selected slots.

5           Editing for each of the slots (step 202) proceeds as follows. Discounting further templates, a slot can have three kinds of content: text at 204, an image at 206, or a coupon at 208. The procedure branches according to which kind of slot the current slot is. If the text slot specifies that its contents be predefined at 210, at 212 the client will select a text string from a plurality of such text strings in a popup list. If the text slot is  
10           user defined (214), the client enters the text into a presented text edit field at step 216.

          If at 206 the slot is identified to contain an image, then the client is given a button at step 218 to take the client to an image browser page where the "thumbnail" images are presented as possibilities for that slot. At step 220, the client selects from the "thumbnails" which have been authorized to fill the slot. If the slot is identified to  
15           contain a coupon at step 208, then the client is given a button to go to a coupon selector screen at step 222. In this screen, the client set the valid dates of the coupon at step 224 and selects from several alternatives a predefined text string at 226 for insertion in the coupon.

          At step 228 (FIGURE 12b), if there are further slots in the current page then the  
20           procedure loops back to step 202 to fill in the next slot. If that page is done, the client is prompt to accept the page at step 230. If this page is not the last one in the marketing piece, control is transferred back to step 194 and the slots for a subsequent page are considered. If at step 234 it is determined that the last page has been reached, the client is taken to a results page at step 236. In the results page, all of the pages which the client  
25           has designed, and the choices for the slots within each such page, are again displayed.

The client is then given the option to order the shell at step 238, which at this point is a marketing piece having a completed design. If the client wants to make one or more changes to the completed design, control is returned to step 194 at which time the client can edit any of the marketing piece's dynamic content.

5           The application described in FIGURES 12a and 12b, and the disclosed embodiment, requires a Block One perl script to call it, and also to order the completed shell once it has been defined by the client. The web logic application, resident on the web site host computer 14 (FIGURE 1), will pass an ID number for the generated and completed shell back to the Block One perl script in order for it to be processed. The  
10       Block One perl scripts call another application in order to generate a file for the image assembler 20 (Desknet™). The perl script will pass the ID number for the completed shell to this other application.

          The table immediately following sets out the architecture of the order record which is transmitted from the web site 14 (FIGURE 1) to the image assembler 20. All  
15       orders have associated with them the client name, and the name, address, city, state, zip, phone, fax and email of the contact. For free-standing insert (FSI) orders, the information includes shipping name and address, the quantity, cost, print date and distribution date and instructions. For point-of-purchase (POP) display orders, there are fields for the division, region and coOp for which the POP is to be generated, and time  
20       frame, order deadline, delivery deadline, shipping information and options, and delivery billing and pricing options. There is also a field for disclaimers to be used. Twenty fields are accorded for additional client/printer required data. After the fields associated with web order date, web order time and template path, there are a large number of fields each associated with a stored image to be retrieved.

<u>ORDER RECORD</u>	
Sequence #	ALL ORDERS
Client name	
Contact name	
Contact address	
Contact city	
Contact state	
Contact zip	
Contact phone	
Contact fax	
Contact email	
Shipping name	FSI ORDERS
Shipping address	
Shipping city	
Shipping state	
Shipping zip	
Quantity	
Cost	
Print Date	
Distribution Date	
Distribution Instructions	
Division	POP ORDERS
Region	
CoOp	
Time Frame	
Order Deadline	
Delivery Deadline	
Shipping information	
Shipping options	
Delivery options	
Billing options	
Pricing options	ADDITIONAL CLIENT/PRINTER REQUIRED DATA
Disclaimers	
Extra01	
Extra02	
Extra03	
Extra04	
Extra05	
Extra06	
Extra07	
Extra08	
Extra09	
Extra10	
Extra11	



Extra12	ADDITIONAL CLIENT/PRINTER REQUIRED DATA
Extra13	
Extra14	
Extra15	
Extra16	
Extra17	
Extra18	
Extra19	
Extra20	
web order date	
web order time	STORED IMAGES TO BE RETRIEVED
template path	
g1p1	
g1p2	
g1p3	
g1p4	
g1p5	
g1t1	
g1t2	
g1t3	
g1t4	
g1t5	
g1x1	
g1x2	
g1x3	
g1x4	
g1x5	
g2p1	
g2p2	
g2p3	
g2p4	
g2p5	
g2t1	
g2t2	
g2t3	
g2t4	
g2t5	
g2x1	
g2x2	
g2x3	
g2x4	
g2x5	
g3p1	
g3p2	
g3p3	

g3p4	STORED IMAGES TO BE RETRIEVED
g3p5	
g3t1	
g3t2	
g3t3	
g3t4	
g3t5	
g3x1	
g3x2	
g3x3	
g3x4	
g3x5	
g4p1	
g4p2	
g4p3	
g4p4	
g4p5	
g4t1	
g4t2	
g4t3	
g4t4	
g4t5	
g4x1	
g4x2	
g4x3	
g4x4	
g4x5	
g5p1	
g5p2	
g5p3	
g5p4	
g5p5	
g5t1	
g5t2	
g5t3	
g5t4	
g5t5	
g5x1	
g5x2	
g5x3	
g5x4	
g5x5	
g6p1	
g6p2	
g6p3	

g6p4	STORED IMAGES TO BE RETRIEVED
g6p5	
g6t1	
g6t2	
g6t3	
g6t4	
g6t5	
g6x1	
g6x2	
g6x3	
g6x4	
g6x5	
g7p1	
g7p2	
g7p3	
g7p4	
g7p5	
g7t1	
g7t2	
g7t3	
g7t4	
g7t5	
g7x1	
g7x2	
g7x3	
g7x4	
g7x5	
g8p1	
g8p2	
g8p3	
g8p4	
g8p5	
g8t1	
g8t2	
g8t3	
g8t4	
g8t5	
g8x1	
g8x2	
g8x3	
g8x4	
g8x5	
g9p1	
g9p2	
g9p3	

g9p4	STORED IMAGES TO BE RETRIEVED
g9p5	
g9t1	
g9t2	
g9t3	
g9t4	
g9t5	
g9x1	
g9x2	
g9x3	
g9x4	
g9x5	
g10p1	
g10p2	
g10p3	
g10p4	
g10p5	
g10t1	
g10t2	
g10t3	
g10t4	
g10t5	
g10x1	
g10x2	
g10x3	
g10x4	
g10x5	
g11p1	
g11p2	
g11p3	
g11p4	
g11p5	
g11t1	
g11t2	
g11t3	
g11t4	
g11t5	
g11x1	
g11x2	
g11x3	
g11x4	
g11x5	
g12p1	
g12p2	
g12p3	

g12p4	STORED IMAGES TO BE RETRIEVED
g12p5	
g12t1	
g12t2	
g12t3	
g12t4	
g12t5	
g12x1	
g12x2	
g12x3	
g12x4	
g12x5	
g13p1	
g13p2	
g13p3	
g13p4	
g13p5	
g13t1	
g13t2	
g13t3	
g13t4	
g13t5	
g13x1	
g13x2	
g13x3	
g13x4	
g13x5	
g14p1	
g14p2	
g14p3	
g14p4	
g14p5	
g14t1	
g14t2	
g14t3	
g14t4	
g14t5	
g14x1	
g14x2	
g14x3	
g14x4	
g14x5	
g15p1	
g15p2	
g15p3	

g15p4	STORED IMAGES TO BE RETRIEVED
g15p5	
g15t1	
g15t2	
g15t3	
g15t4	
g15t5	
g15x1	
g15x2	
g15x3	
g15x4	
g15x5	
g16p1	
g16p2	
g16p3	
g16p4	
g16p5	
g16t1	
g16t2	
g16t3	
g16t4	
g16t5	
g16x1	
g16x2	
g16x3	
g16x4	
g16x5	
g17p1	
g17p2	
g17p3	
g17p4	
g17p5	
g17t1	
g17t2	
g17t3	
g17t4	
g17t5	
g17x1	
g17x2	
g17x3	
g17x4	
g17x5	
g18p1	
g18p2	
g18p3	

g18p4	STORED IMAGES TO BE RETRIEVED
g18p5	
g18t1	
g18t2	
g18t3	
g18t4	
g18t5	
g18x1	
g18x2	
g18x3	
g18x4	
g18x5	
g19p1	
g19p2	
g19p3	
g19p4	
g19p5	
g19t1	
g19t2	
g19t3	
g19t4	
g19t5	
g19x1	
g19x2	
g19x3	
g19x4	
g19x5	
g20p1	
g20p2	
g20p3	
g20p4	
g20p5	
g20t1	
g20t2	
g20t3	
g20t4	
g20t5	
g20x1	
g20x2	
g20x3	
g20x4	
g20x5	
g21p1	
g21p2	
g21p3	

g21p4	STORED IMAGES TO BE RETRIEVED
g21p5	
g21t1	
g21t2	
g21t3	
g21t4	
g21t5	
g21x1	
g21x2	
g21x3	
g21x4	
g21x5	
g22p1	
g22p2	
g22p3	
g22p4	
g22p5	
g22t1	
g22t2	
g22t3	
g22t4	
g22t5	
g22x1	
g22x2	
g22x3	
g22x4	
g22x5	
g23p1	
g23p2	
g23p3	
g23p4	
g23p5	
g23t1	
g23t2	
g23t3	
g23t4	
g23t5	
g23x1	
g23x2	
g23x3	
g23x4	
g23x5	
g24p1	
g24p2	
g24p3	



g24p4	STORED IMAGES TO BE RETRIEVED
g24p5	
g24t1	
g24t2	
g24t3	
g24t4	
g24t5	
g24x1	
g24x2	
g24x3	
g24x4	
g24x5	
g25p1	
g25p2	
g25p3	
g25p4	
g25p5	
g25t1	
g25t2	
g25t3	
g25t4	
g25t5	
g25x1	
g25x2	
g25x3	
g25x4	
g25x5	

FIGURE 13 is a customer profile table containing the address, credit card number, et cetera of the customer soliciting the order. FIGURE 14 is a ship-to table identifying the address to which the final marketing piece is to be shipped. FIGURE 15 sets out the credit card table associated with the customer, and having fields associated with the particulars of the customer's credit card. FIGURE 16 is an address table, having as its fields the address particulars of the customer and organization for which the customer works. FIGURE 17 is a group security table having fields associated with group security ID, description and group password. FIGURE 18 is a template profile which identifies each template and the images which are available to each frame in the image catalog.

The template profile for each template includes its identification, a description, a start date and an expiration date.

FIGURE 19 illustrates a template-slots table, in which each template is identified with its respective frame number and the images which are available to each frame.

5 FIGURE 20 is a slot image table identifying a particular image held in the image catalog. The image is identified by slot identification, image identification, and type of image. The type of images can be image, coupon, text or template.

FIGURE 21 is a customer invoice table setting out customer invoice identity, or ID number, the date that the invoice was created, the time that it was created and the  
10 session of the customer which generated the invoice. FIGURE 22 is a customer order table which identifies a particular customer order. Fields are provided for invoice identification number, customer identification number, session ID number, order ID number, quantity, cost, order date, delivery date, printed date, date delivered, date order complete, template ID number, and "shipped to" information. The shipped-to address is  
15 in turn set up in a table illustrated in FIGURE 23, which provides fields for invoice identification number, customer identification number, session identification number, order identification number, and a link to the address table shown in FIGURE 16.

FIGURE 24 sets out the customer order template identification table, which is used to identify each template and the images which are available to each frame.  
20 Information is given for the template identification, slot identification, image identification and image type, and ten fields are accorded for coupon text.

FIGURE 25 is a customer extraction table by which orders for images can be fed from the OPI server 30 to the color laser printer 34 (FIGURE 1). Fields are given for image names, file paths and box names, as well as similar fields for text. This table also

includes fields for quantity, cost, order date, delivery, print date, customized text and template name.

FIGURE 26 is an image class table that is used to group images into logical classes. The classes are used to determine which images are shown to which customer. Only one class of images is available to any particular customer identification number. This permits the retention in the image catalog of images designed for different organizations. FIGURE 27 is an image class template table which lists the images available under a specific class.

FIGURE 28 is a session table that identifies the customer session for which the order was generated, and FIGURE 29 is a log in history table. Each of the foregoing tables is an object which may be transmitted back and forth from the web host computer 14 to the image assembler 20 and the OPI server 30.

The Image Catalog describes all of the possible combinations of objects for use by the client in building a composite image.

The page-slots in the image database are associated with a given shell. In the illustrated embodiment, this is accomplished by equating the page slot series with the shell's serial number. Each page-slot is associated with one and only one shell. Within the entire collection of shells, therefore, a single shell is uniquely identified by its serial number.

The image database has an editorial table (not shown) in which every object, whether a shell, template, slot or content, has an editorial row. Each one of the stored objects has a unique identifier in the form of a row record ID. The image database uses this record ID to associate keywords, thumbnail images and other information with the editorial row. The software manager image database assigns a record ID to every object in the database.

As mentioned above, templates are identified by a Search Rule in the page-slot file. An example of the search qualifier or Search Rule for a page-slot that appears in the page-slots associated file appears as follows:

5                   search =       "assetType = 'template') AND (project = 'Block  
                                  2 template backs FSI & solomail Oil Alliance')";       (1)

In the above equation, the assetType is identified as "template", and the project is "Block 2 template backs FSI & solomail Oil Alliance". This project is a single free-standing insert for stores associated with gas stations; the identified template particularly concerns the second block on the back of such a free-standing insert. The above Search  
10                   Rule explicitly limits the available contents for this page-slot to templates. In addition, the Search Rule uses an arbitrary attribute of catalog objects (from their editorial records), namely "project." The Search Rule selected, in this case, three back-page templates illustrated in FIGURE 11.

The Search Rule for a page-slot is associated with its "Search" key. This key is in  
15                   a dictionary or data structure of key-value pairs. The associated file and an attribute called "usageStyleRights" are parsed as property lists and are expected to yield dictionaries; otherwise a warning is produced indicating a formatting error.

In addition to dynamic content information, slots and page-slots may have other, non-content information associated with them by means of their property lists. The actual  
20                   associated file from which Expression (1) was taken is set forth as follows:

```
name=ps2;
contents =
{
type = template;                                (2)
source = predefined;
search = "(assetType = 'template') AND
          (project = 'Block 2 template backs FSI + solomail
          Oil Alliance')";
};
}
```

As can be seen from expression (2), the Search Rule is nested inside the structure that contains information pertaining to the slot's contents. The source is "predefined", which means that the contents for this page-slot come from the image database itself, rather than from the user.

The name of this page-slot is ps2, where "2" is the page-slot's number in the shell.

The page-slot to template association allows for arbitrary associations. The template merely has to match the Search Rule's criteria and since these criteria are arbitrary, a page slot may select for any template in the image database that fits the rule. This means that templates may be associated with an arbitrarily large number of page-slots. Those page-slots can be in the same shell or in different shells. Templates can be reused between different shells if the designer sees fit to do so. For the proprietor, the reuse of a template means only that the one record for the template and its associated graphics needs to exist in the image database.

Slots select their available contents much the way page-slots do. Expression (3) sets out a Search Rule for a particular slot:

```
{name = g1p1;  
bounds = ("-0.125\" " "-0.125\" " "3.25\" " "3.25\" ");  
shape = rectangular;  
contents = {  
type = image;  
source = predefined;  
search = "keywords.keyword = '8A'";  
};  
}
```

The above Search Rule is specified by keyword. Here, only one such keyword is required, "8A". Single quotes are needed since the keyword is a character field. The "keywords.keyword" notation means "traverse the keywords relationship, look at the keyword attribute and the associated object or table and return the records for which there is a keyword exactly equal to the string '8A'". This Search Rule also recites the type as an image and the source as predefined. The above property list further contains information about the slot's location in its template as well as the shape of the slot. This information is used in producing a preview of the client's composite which he or she has designed, and is also used to drive the HTML image maps for clickable "thumbnails".

Since the associated files are files in the Image Catalog, any number of image database records may refer to an associated file. In such a case, the archivist moves slot-specific information to the usageStyleRights field for that slot. This is what has been done in Expression (4), where the bounds information for the slots which use this file is kept in those slot's usageStyleRights field.

```

{
  name = g1p1
  shape = "rectangular";
  contents = {
5    type = image;
      source = predefined;
      search = "keywords.keyword = '11A'";
    };
  }

```

(4)

10 In the above Expression, there are quotes around "rectangular", indicating that bounds information is kept under a "rectangular" field.

It is also possible to have a Search Rule that uses multiple keywords. One is given in Expression (5):

```

15 {
    ...
    contents = {
    ...
    search = "keywords.keyword = '14A' AND keywords1.keyword =
20 'bubble'";
    }
  }

```

(5)

In the above Expression note that "keywords.keyword" has been differentiated from "keywords1.keyword". This is to specify that these keywords are different. As many different keyword variables can be added to the structure as is required.

25 Unlike other objects in the catalog, there are many types of images. The archivist differentiates among these using a variable called assetType. The qualifier which determines whether an editorial record maps to an image is as follows:

```

((assetType = 'image') or (assetType = 'lineArt')
or (assetType = like 'OPI*'))

```

(6)

In the above Expression, an image is anything that has an assetType of "image" or of "lineArt" or that begins with the string "OPI". The "like" operator is the same as the SQL "like" operator. The "\*" represents arbitrary character strings. When the qualifier is used to fetch data from a database it uses the SQL appropriate for that database server.

5 Images may be associated with any number of different slots.

There are also more than one type of text in the database, all of which are represented by text objects in the image catalog. The qualifier for text is: (assetType like 'text\*'). Hence, a text is anything that has an assetType that begins with "text". Text slots can be of two types: file-based and string-based. File based text slots (or boxes) take the text from a file. The file is either .qtt or .txt. String based text slots take the text from a string in the production order generated from the customer.

10 The system proprietor may use rule-references to link slot contents together. A rule-reference determines how a client's selection of content for one slot may affect what content is available for other slots in a shell. In essence, what the client uses to fill a particular slot in a shell will act as a filter to what the client can select for other slots in the same shell.

In an alternative embodiment, a further database can be used to store client-supplied images. Each piece or editorial record would be associated with a client via either the user name or a customer ID or some other unique identifier as well as by client.

20 Every catalog object in this shell has associated keywords and may have one associated thumbnail and one viewex image associated with it.

Each entry in the image database has an associated file. For images and templates, this file is the high-resolution image. Since records are created in the image database for all of the objects of the catalog, rather than just image objects, the associated file is used to store information for objects that do not have an associated image. For



slots, the associated files are property lists which are parsed by the catalog framework. The property list contains auxiliary slot information including Search Rules, rule references and relatively location of the box which this slot represents. In the case of Quark Xpress Tag Format text, the associate file is a .xtt file.

5           The finished marketing piece is also called a composite. A template with slots becomes a composite once contents for all of its slots are specified.

Each object in the catalog has a usageStyleRights field. This stores additional information for the object in the form of a property list. The field is mapped to the "long\_description" column in the editorial table. For slots and page-slots, the information  
10 in this field is combined with that in the slot's associated file. If there is information under the same key in both locations, the information in the usageStyleRights field superseded that in the associated file.

The order and design logic associated with the web site, sometimes known as the "catalog" application, has only read-only rights with respect to the image database. The  
15 client logs onto the database server using a user name that is has only access to one database, and within that database has only select rights granted to it. This means that the catalog framework never creates objects that are not represented in the database. Nor does the catalog application ever add objects to the image database. While the catalog framework does do some processing of the data loaded from the database, all of this  
20 processing is done either to implement the logic of the catalog, generally by associating available contents with slots, or for presentation purposes.

The serial number is a field in the editorial record that is used in building relationships between objects in the catalog. The serial number is mapped to a "paper\_clip" column in the editorial table. The serial number of an object is usually its  
25 numbering within a series. For templates, this is mostly arbitrary. For slots, the serial

number is determined by the order of the slot within the template. The order is determined front-to-back first, then left-to-right, and then finally top-to-bottom.

Other fields in the editorial record include the long\_name of the object, the thumbnail, and the viewex. The thumbnail is a low resolution version of an image archived in the database. Where objects are images, text, template and shells, a thumbnail may exist. Thumbnails are held in a "thumbnails" table in the database. There is a one-to-one relationship between editorial rows and thumbnail rows.

A viewex is a medium-resolution version of an image archived in the database; it is similar to a thumbnail. Very small images may not have an associated viewex record, and in such cases, the thumbnail is always used instead.

In summary, a system and method have been disclosed by which a client, at a remote location, can formulate a particular marketing piece, such as a free-standing insert or point-of-purchase display, within constraints imposed by the client's organization. The use of shells in which the client can insert prestored content permits the production of marketing pieces to occur in days instead of weeks. Low-resolution images are transmitted over the Internet for use by the client, while corresponding high-resolution images are used in printing the final material.

FIGURES 30-38b are successive screens presented to a client in the ordering of images from the image database. FIGURE 30 illustrates a log in page. FIGURE 31 is a screen which gives an introduction and legal information.

FIGURE 32 is a search results page which has retrieved a series of images responding to the word "burgers". Each of the illustrated images relates to a hamburger. Each of the images is further identified with an image number and a description.

FIGURE 33 is a details screen by which further details and a larger image number 0 to 006 has been retrieved. The details screen gives size and price.

FIGURE 34 shows a screen in which the Big Mac Sandwich depicted in FIGURE 33 has been added to a shopping cart. In FIGURE 35 there is seen the method by which the image is transmitted, shipped or downloaded to the user.

FIGURE 36 is a screen in which all of the images that have been purchased have been placed in a shopping cart; this screen may be used by the client to review his or her purchases.

FIGURES 37a and 37b are a screen showing billing information and image charges. FIGURES 38a and 38b illustrate a confirmation screen by which the order is finalized.

FIGURES 39-53 are successive screens encountered by a client in designing a point-of-purchase (POP) mechanizing kit. FIGURE 39 is a welcome screen.

FIGURE 40 is a beginning screen querying the client as to the region that the client represents. Similarly, FIGURE 41 asks for the identity of the cooperative for which the client is placing an order; FIGURE 42 asks for the time frame for which the order should be prepared. In FIGURE 43, the client is given a choice between two kinds of POP merchandising kits, either a regular menu or a breakfast menu; these will cause separate templates to appear.

In FIGURE 44, one of those templates has appeared, the one for a regular menu. The template indicated generally at 300 has a plurality of page-slots 302, 304 and 306, 308, 310 and 312. While in printed material the "page-slots" each correspond to the front or back side of a printed page, for point-of-purchase merchandising material, each one of the page-slots corresponds with a particular point-of-purchase item that is used as a portion of the kit.

FIGURE 45 is the first screen by which the client chooses content for insertion into a slot. In FIGURE 45, the program is prompting the client for a price. This text

will be inserted on the exterior elements and the window decal (page-slots 302, 304 and 306). FIGURE 46 is a screen which confirms the price being illustrated. In FIGURE 47, prices are chosen for interior elements 308, 310 and 312. FIGURE 48 is a screen which confirms the price that is inserted into slots on these templates. FIGURE 49 is an order information page, while FIGURE 49a is a billing information page prompting the user to enter billing information.

FIGURE 50 is an order information screen prompting the client for address details and special shipping instructions. FIGURE 51 is an order confirmation screen that reviews all of the relevant information of the order. FIGURE 53 is an order confirmation screen indicating at 316 that the order has been completed.

FIGURES 53-62 are a set of screens presented to the client in the design of a free-standing insert or FSI. In FIGURE 54, search results have already been returned. In FIGURE 54, the client is prompted to select one of the four returned templates for the front side of the piece. In FIGURE 55, the first of these templates (template 320) has been selected for completion into a final FSI marketing piece. The client is prompted to select from several predefined text strings to fill in slots on various places on the template. At the end of doing so, the client either cancels this work or accepts at 322.

FIGURE 56 presents three back sides templates to the client, who is prompted to select one of them. The three templates, respectively, are set up for six coupons, nine coupons, or eight coupons. Each of the template styles now has a front side with a quarter pounder main picture, Chevron as in Allied Gasoline Station, and a preselected headline, "When you are on the go."

FIGURE 57 is a back side editor prompting for different content to be inserted into each of nine areas on the back side of the template. Areas 1, 4 and 7 each include a picture of a food item. Areas 2, 5 and 8 show a map of the store for which the coupon is

being offered. Areas 3, 6 and 9 show a store message and image. For each of the coupons, the client fills in a coupon validate and the location where the coupon is valid.

FIGURE 58 is a review screen in which the client may review the results of his selections. He can decide to edit these further, cancel or order the template. FIGURE 59 is an order information screen by which order information is solicited. FIGURE 60 is a billing information screen prompting for the entry of billing information. FIGURE 61 is an order confirmation screen recapitulating all of the information solicited from the client, and FIGURE 62 is an order completion screen.

While preferred embodiments have been illustrated and described, it should be understood that changes and modifications can be made thereto without departing from the invention in its broader aspects. Various features of the invention are defined in the following claims.

**WE CLAIM:**

1           1. Apparatus for designing and ordering a marketing piece by a client from a  
2 remote location, comprising:

3           a marketing piece assembler;

4           a terminal at a location remote from the marketing piece assembler, the terminal  
5 accessible by the client; and

6           a communications link between the terminal and the marketing piece assembler,  
7 the marketing piece assembler operable by the client through the communications link to  
8 select design parameters of a marketing piece and, at the conclusion of selecting such  
9 design parameters, placing an order for the marketing piece including the selected design  
10 parameters to the marketing piece assembler, the marketing piece assembler creating a  
11 marketing piece file responsive to receiving a placed order, the marketing piece file  
12 electronically defining and being used to produce the marketing piece.

1           2. The apparatus of Claim 1, and further including a low-resolution image  
2 memory coupled to the marketing piece assembler and storing low-resolution versions of  
3 a plurality of images, a browser of the marketing piece assembler permitting the client to  
4 search, retrieve and view selected ones of the low-resolution versions of the images, the  
5 placed order including indicia of which of said images are being used in the marketing  
6 piece being designed; and

7           a high-resolution image memory coupled to the marketing piece assembler and  
8 storing corresponding high-resolution versions of said images, the marketing piece  
9 assembler, when creating the marketing piece file, retrieving high-resolution versions of

10 the used images specified in the order and incorporating the retrieved high-resolution  
11 images into the marketing piece file.

1 3. The apparatus of Claim 1, wherein certain ones of the design parameters of the  
2 marketing piece are selected by the client from a plurality of design parameters stored in  
3 a memory associated with the marketing piece assembler.

1 4. The apparatus of Claim 3, wherein other ones of the design parameters are  
2 created by the client.

1 5. The apparatus of Claim 4, wherein said other ones include text fields.

1 6. The apparatus of Claim 1, wherein the communications link includes the  
2 Internet.

1 7. The apparatus of Claim 1, wherein the marketing piece assembler is a  
2 processor which has been programmed by a marketing piece assembler program.

1 8. The apparatus of Claim 1, wherein the marketing piece is printed material, the  
2 design parameters including text and image attributes of the printed material.

1 9. Apparatus for designing and ordering a marketing piece over a  
2 communications line, comprising:

3 a high resolution image repository storing a plurality of high resolution images;

4 a low resolution image repository storing a plurality of low resolution images each

5 corresponding to a high resolution image stored in the high resolution image repository;

6 a host computer on which a web site is installed, the web site accessible by a client  
7 from a remote terminal through a communications link;

8 an image retriever coupled to the web site and operable through the web site by  
9 the client to search for, browse through and select one or more low-resolution images;

10 an low resolution image processor coupled to the host computer for retrieving low  
11 resolution images from the low resolution image repository in response to a request from  
12 the web site;

13 a shell memory storing a plurality of shells each serving as a framework for a type  
14 of marketing piece, each shell having one or more page slots, each page slot associated  
15 with one or more templates, each template having a plurality of content slots, each  
16 content slot defining a location into which an image or text may be inserted by the client;

17 an image designer coupled to the shell memory and to the web site, the image  
18 designer operable by the client through the web site to select any of a plurality of shells  
19 and to insert text or images into the data slots of the shell, the image designer operable by  
20 the client to formulate an advertising piece order;

21 an image assembler coupled to the web site for receiving an advertising piece  
22 order from the client through the web site, the image assembler coupled to the high-  
23 resolution image repository memory for retrieving high-resolution images, each retrieved  
24 high-resolution image corresponding to a low-resolution image inserted by the client into  
25 a data slot of a shell in the advertising piece order, the image assembler creating a high  
26 resolution file of a finished marketing piece design; and



27 means linked to the image assembler for producing a plurality of copies of the  
28 marketing piece.

1 10. Apparatus for designing and manufacturing a marketing piece, comprising:  
2 an image database storing records on a plurality of content objects, the content  
3 objects including images;  
4 an image processor coupled to the image database for retrieving selected ones of  
5 the records;  
6 a data entry terminal operable by a client and coupled to the image processor to  
7 retrieve preselected fields of the database records;  
8 a marketing piece designer coupled to the data entry terminal and to a shell  
9 database which stores a plurality of shells, each of the shells corresponding to a type of  
10 marketing piece and having a plurality of slots for the insertion of text or image content,  
11 the marketing piece designer operable by the client to retrieve a selected shell;  
12 the marketing piece designer operable by the client to select content objects from  
13 the image database for insertion into respective ones of the slots of the shell such that a  
14 finished marketing piece design is produced, the marketing piece designer further  
15 operable by the client to transmit an order for the manufacture of marketing pieces  
16 according to the finished marketing piece design.

1 11. A method for designing and ordering a marketing piece by a client from a  
2 remote location, comprising the steps of:  
3 at a terminal remote from a marketing piece assembler and coupled to the  
4 marketing piece assembler with a communications link, using the marketing piece  
5 assembler to select design parameters by a client for a marketing piece;

6           forming a marketing piece order including the selected design parameters;  
7           communicating the marketing piece order to the marketing piece assembler;  
8           using the marketing piece assembler to create a marketing piece file responsive to  
9           the marketing piece assembler receiving a placed marketing piece order, the marketing  
10          piece file electronically defining the marketing piece; and  
11          using the marketing piece file to produce the marketing piece.

1           12.    A method for designing and producing a marketing piece as ordered by a  
2           client from a remote location, comprising the steps of:

3           establishing a web site on a host computer, the client having access to the web site  
4           from the remote location;

5           organizing an object database to have a plurality of objects, each of the objects  
6           having an address and a row in a record table, the objects including content objects, shell  
7           objects and slot objects, the content objects including image objects, each image object  
8           having associated therewith a low-resolution image file and a high-resolution image file;

9           storing the object database in a memory associated with an image processor;  
10          using search logic associated with the web site and search criteria supplied by the  
11          client, searching for one or more images for use in assembling the marketing piece, the  
12          search logic returning image search results;

13          selecting at least one image from the search results for inclusion in the marketing  
14          piece;

15          transmitting a low-resolution image file to the client in response to the step of  
16          selecting;

17          using design logic loaded on the web site, permitting the client to select among a  
18          plurality of shells, each of the shells corresponding to a shell object stored in the

19 database, the shells each having at least one slot for the insertion of a content object, said  
20 at least one slot corresponding to a slot object stored in the database;

21 inserting a selected image into said at least one slot;

22 responsive to the step of inserting, forming a completed marketing piece design;

23 transmitting parameters of the completed marketing piece design as a marketing  
24 piece order to the image processor through the web site;

25 responsive to the image processor receiving the marketing piece order, creating a  
26 marketing piece design using at least one high resolution image file corresponding to the  
27 image inserted into said at least one slot; and

28 using the completed marketing piece design to produce one or more copies of the  
29 marketing piece.

1 13. Apparatus for designing and ordering a marketing piece by a client from a  
2 remote location, comprising:

3 processing means for assembling a marketing piece;

4 terminal means disposed at a location remote from the processing means, the  
5 terminal means being accessible by a client;

6 communications means for coupling the terminal means with the processing  
7 means;

8 design parameter selection means of the processing means operable by the client to  
9 select a plurality of design parameters for a marketing piece;

10 order completion means of the processing means for placing an order for the  
11 marketing piece, the order including the selected design parameters and being transmitted  
12 from the client to the processing means;

13           marketing piece file creation means of the processing means for creating a  
14           marketing piece file based on the received order, the marketing piece file electronically  
15           defining and being used to create the marketing piece.

1           14.    The apparatus of Claim 13, and further comprising:

2           low-resolution image memory means coupled to the processing means for storing  
3           low-resolution versions of a plurality of images;

4           browsing means of the processing means permitting the client to search, retrieve  
5           and view selected ones of the low-resolution versions of the images, said placed order  
6           including indicia of which of said images are being used in the ordered marketing piece;  
7           and

8           high-resolution image memory means coupled to the processing means for storing  
9           corresponding high-resolution versions of said images, the marketing piece file creation  
10          means retrieving high-resolution versions of said selected images responsive to sensing  
11          the indicia in the order, the marketing piece file creation means incorporating the  
12          retrieved high-resolution versions of the images into the marketing piece file.

**FIG. 1**

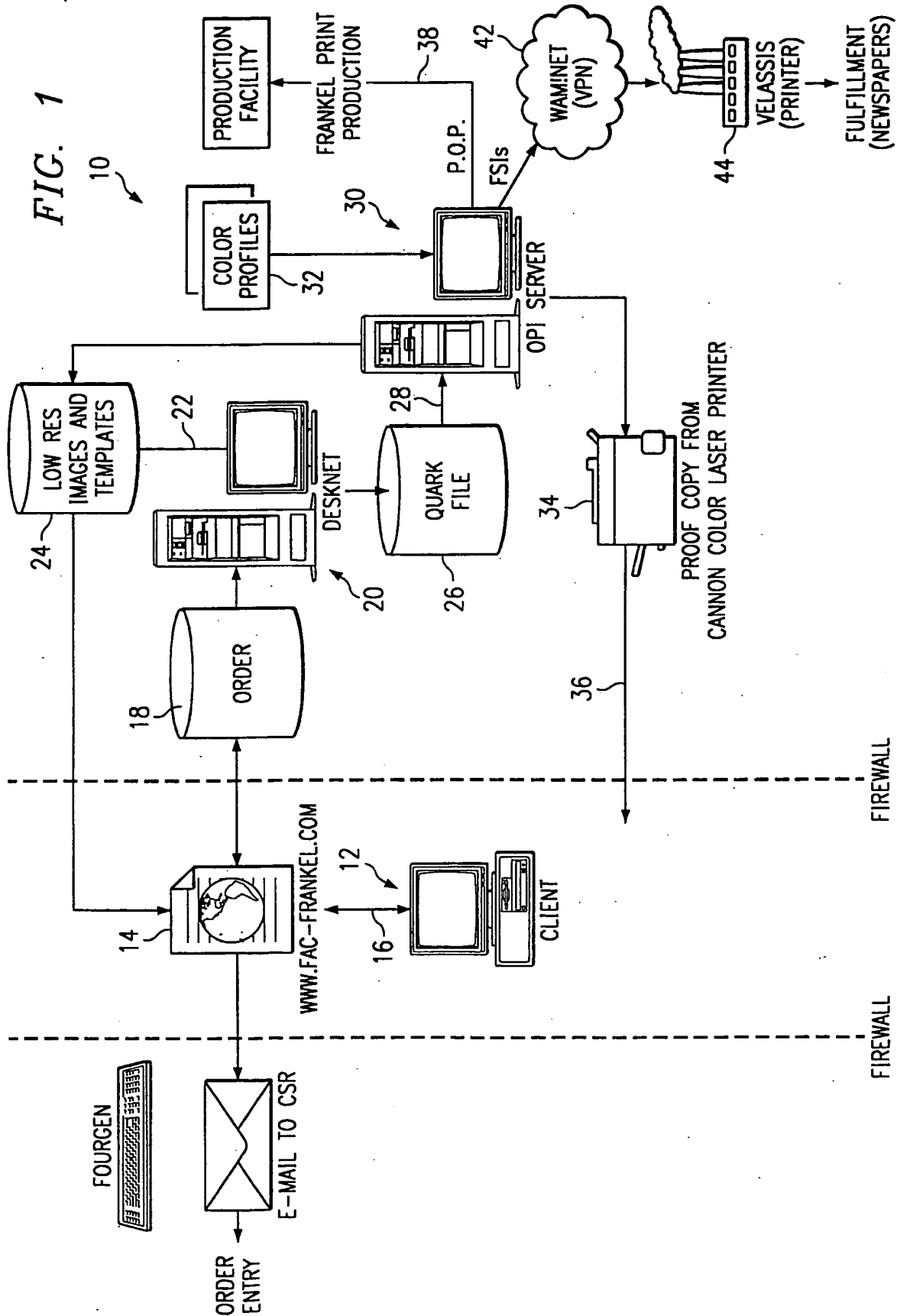
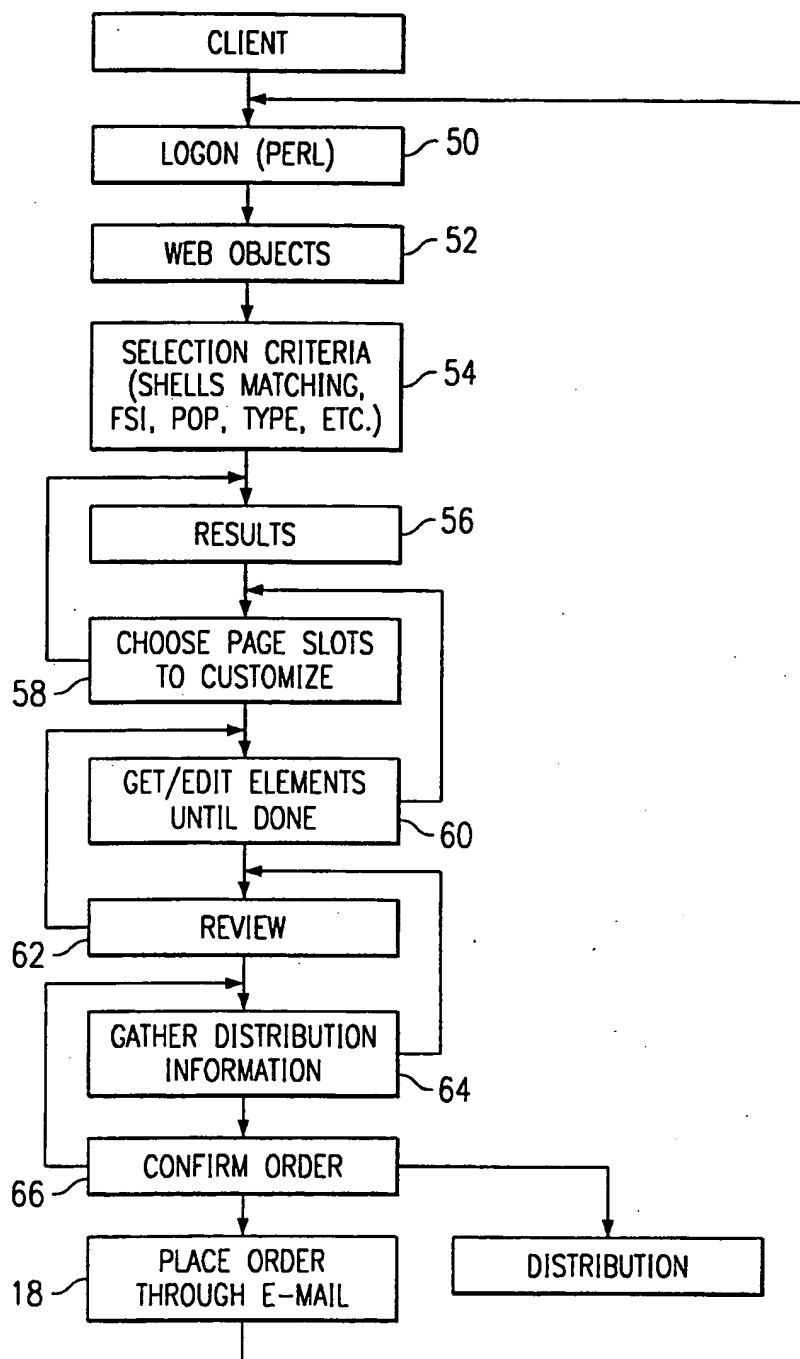


FIG. 2

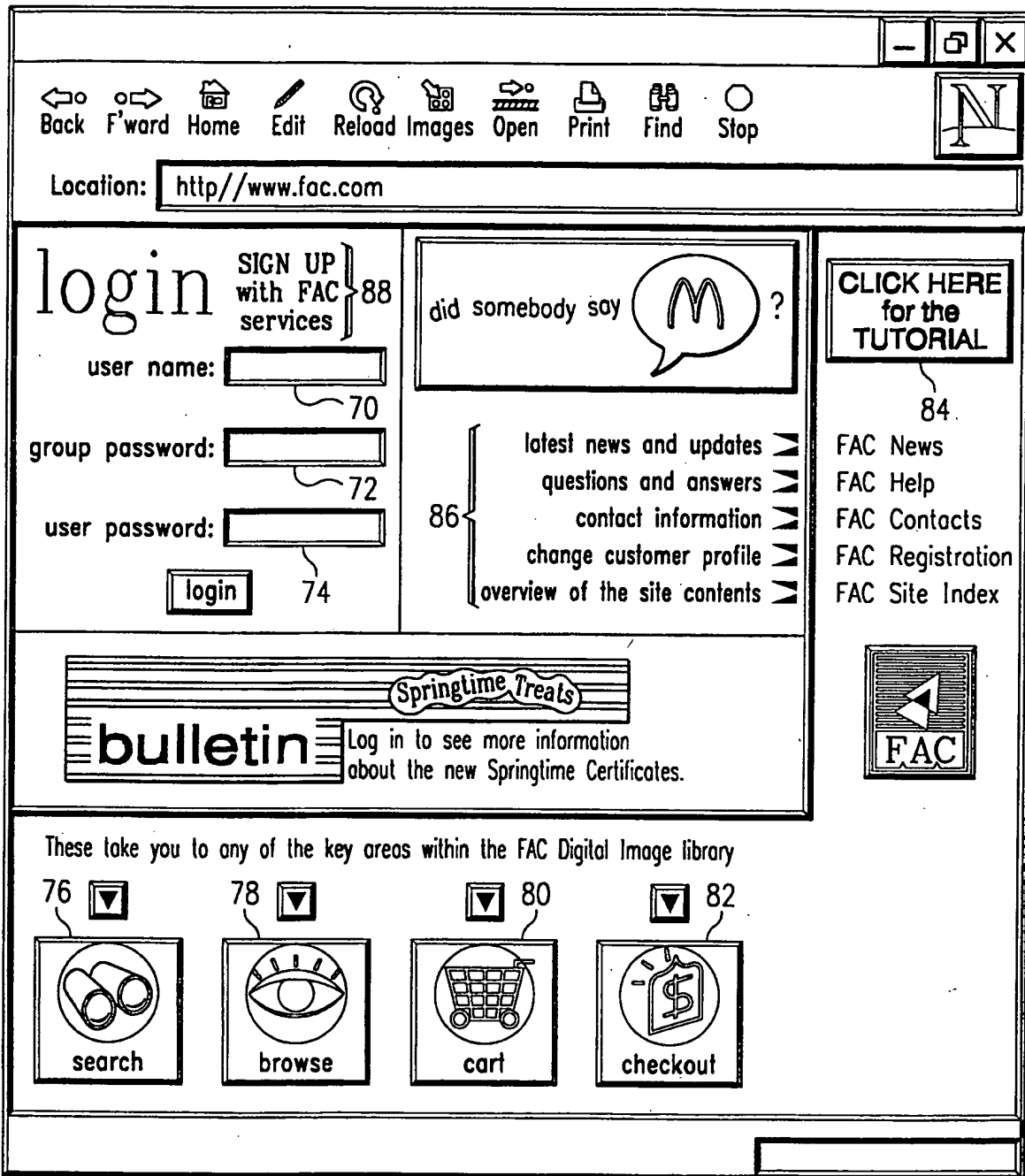


3/44

09/762578

69

FIG. 3



90

FIG. 4

Back Forward Home Edit Reload Images Open Print Find Stop

Location:

registration  
request

User Registration Form

First Name

Last Name

Address1

Address2

City, State

Zip Code

User Registration Form

First Name

Last Name

CLICK HERE for the TUTORIAL

FAC News  
FAC Help  
FAC Contacts  
FAC Registration  
FAC Site Index

Happy Valentine's

FAC

search browse cart checkout

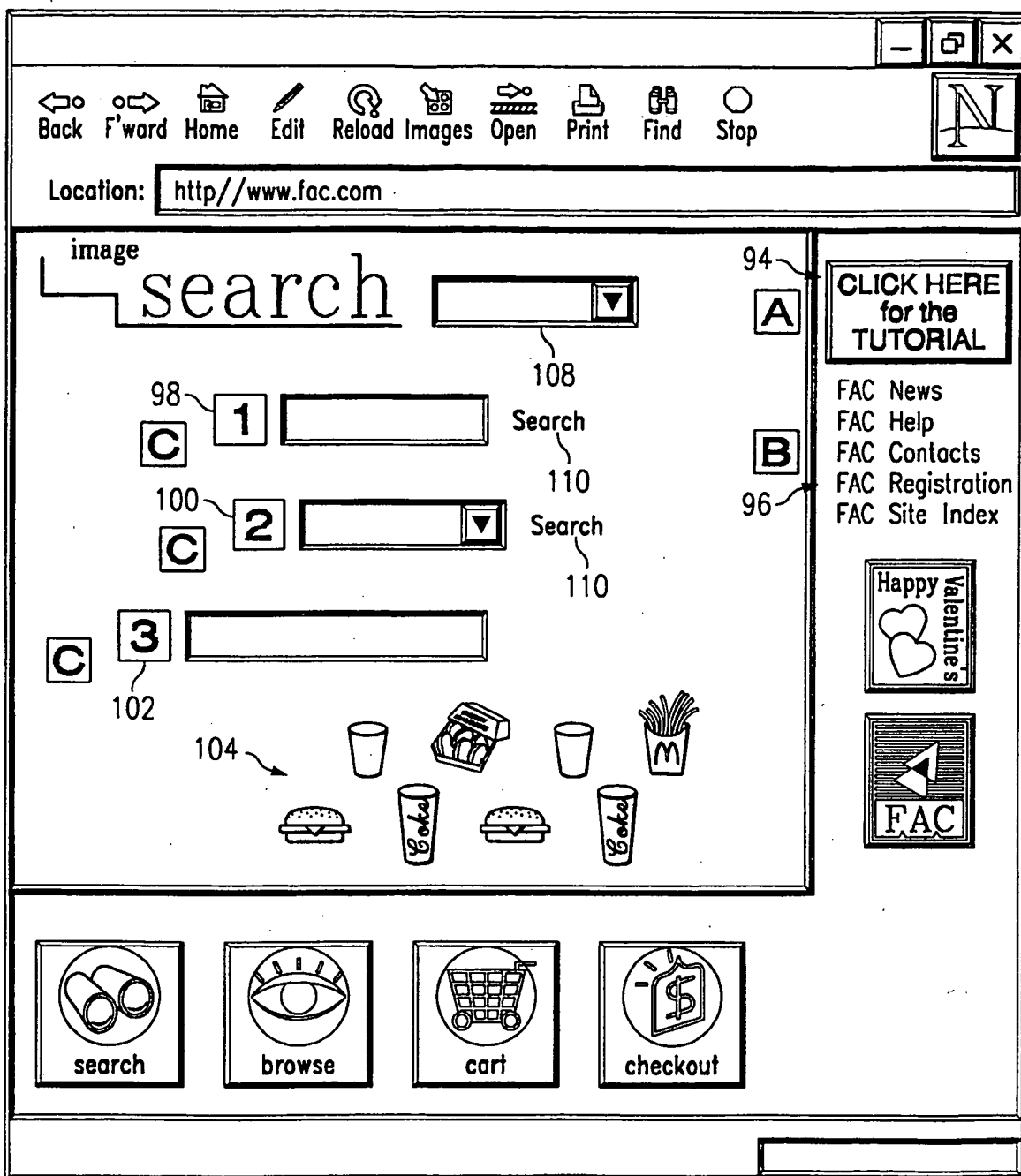


5/44

09/762578

92

FIG. 5

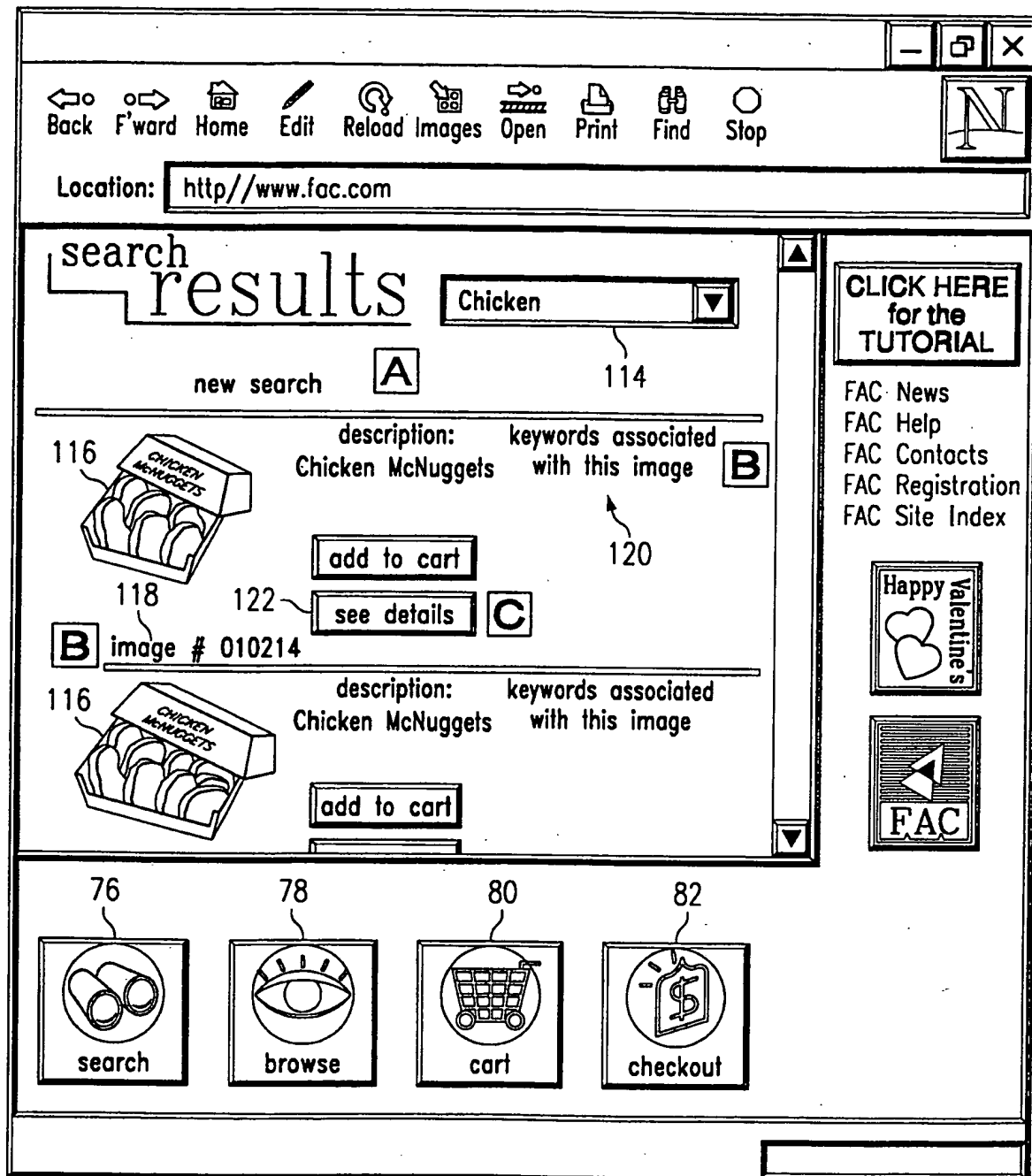


6/44

09/762578

112

FIG. 6

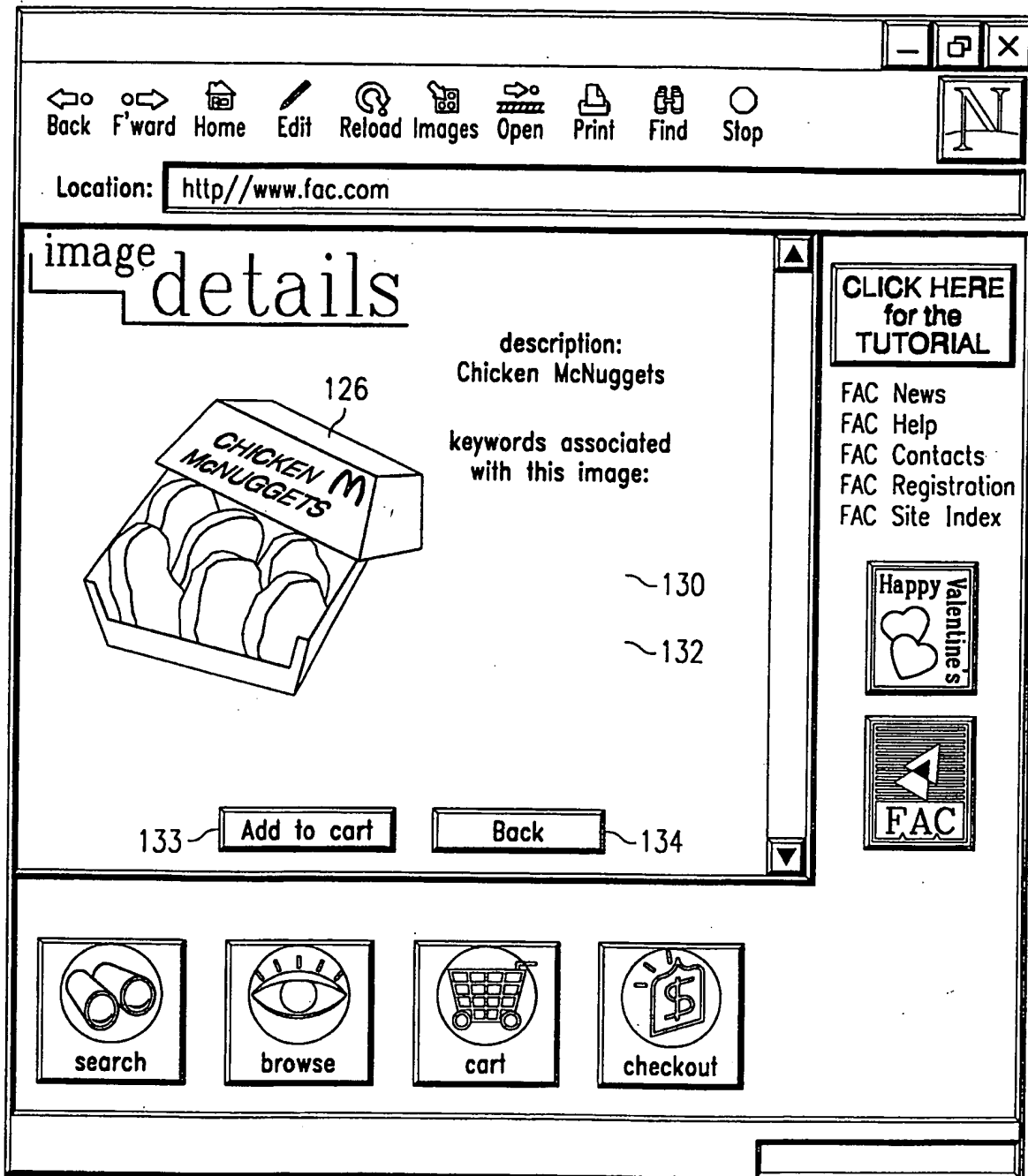


7/44

09/762578

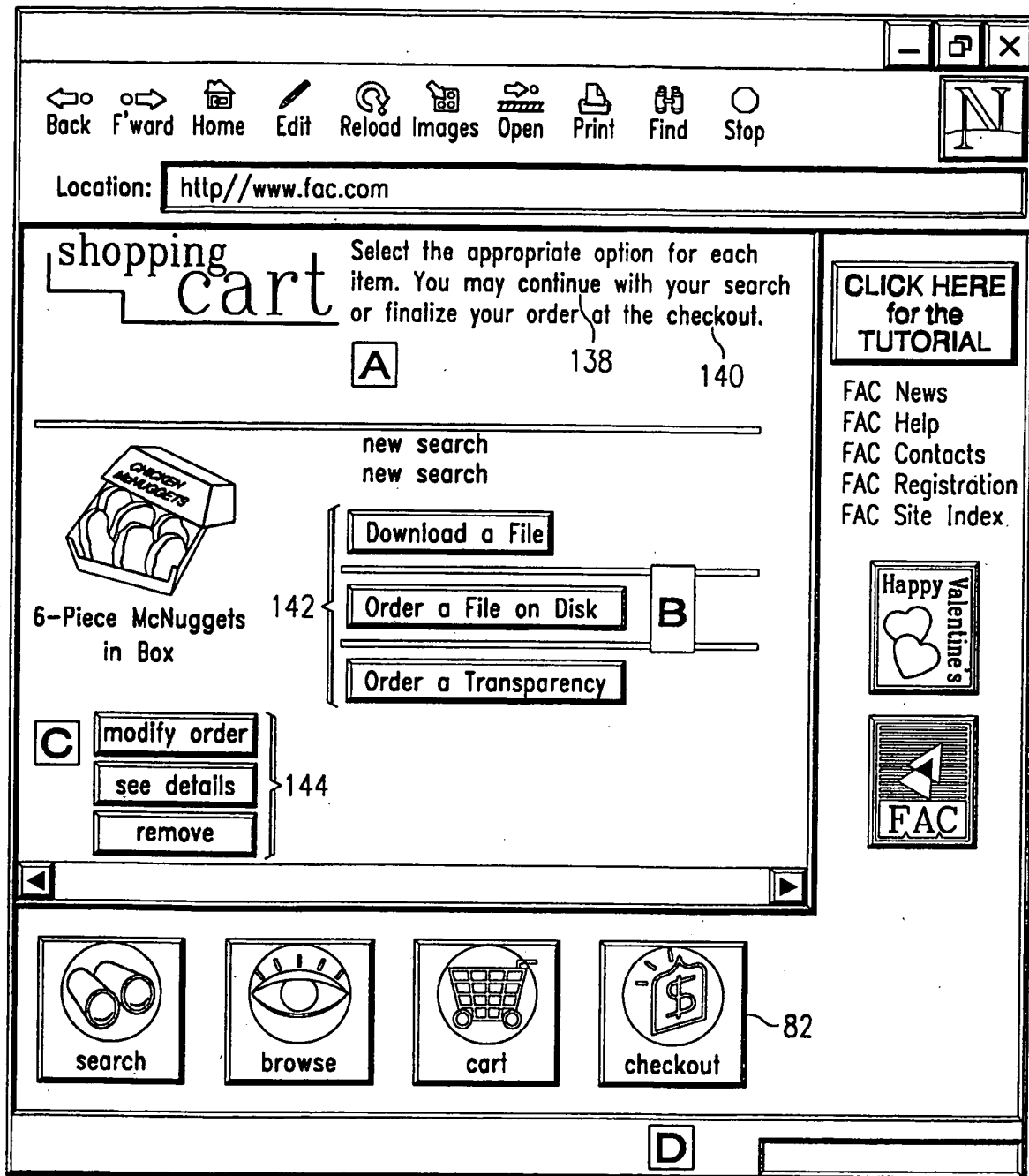
124

FIG. 7



136

FIG. 8

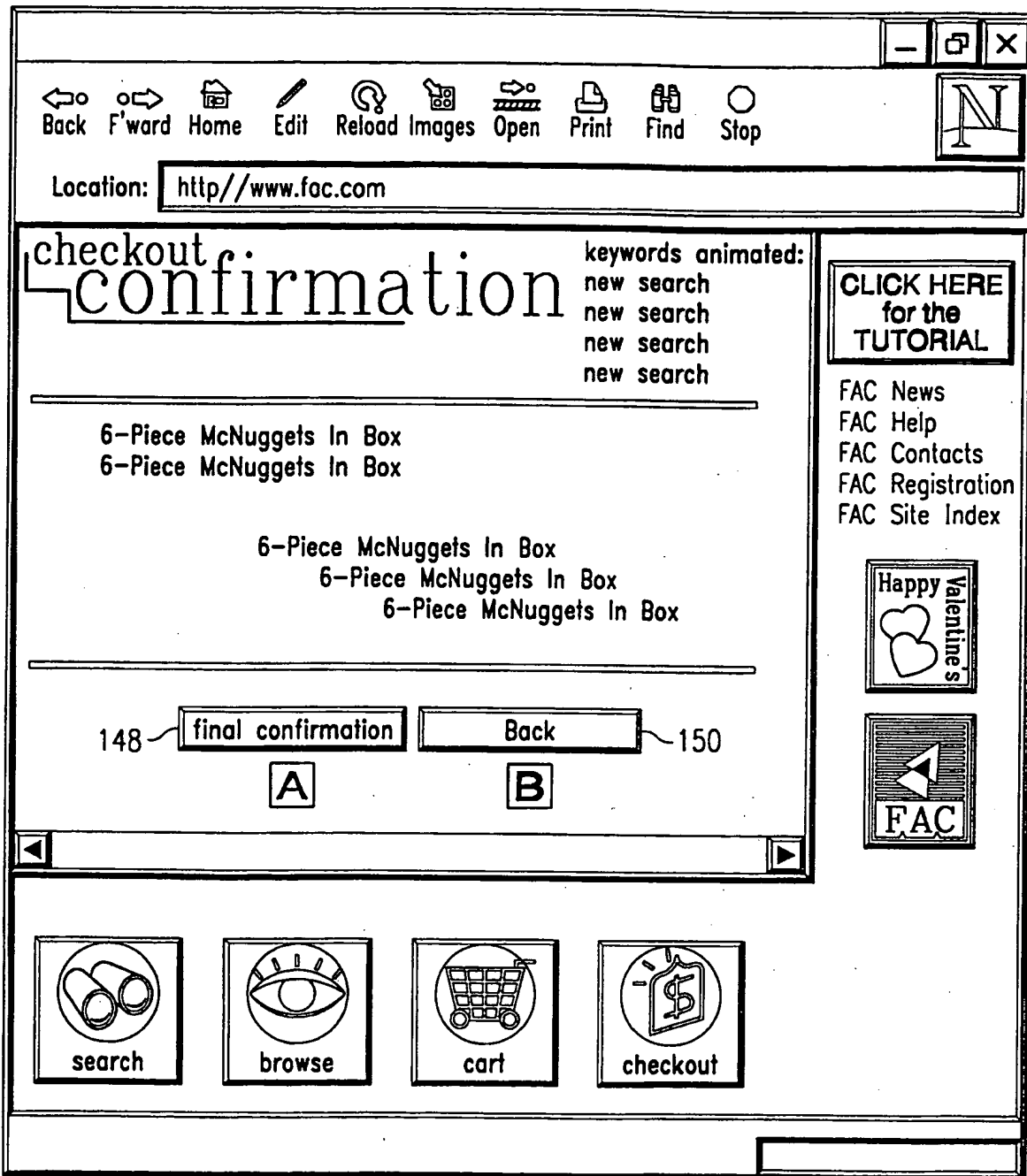


9/44

09/102578

146

FIG. 9

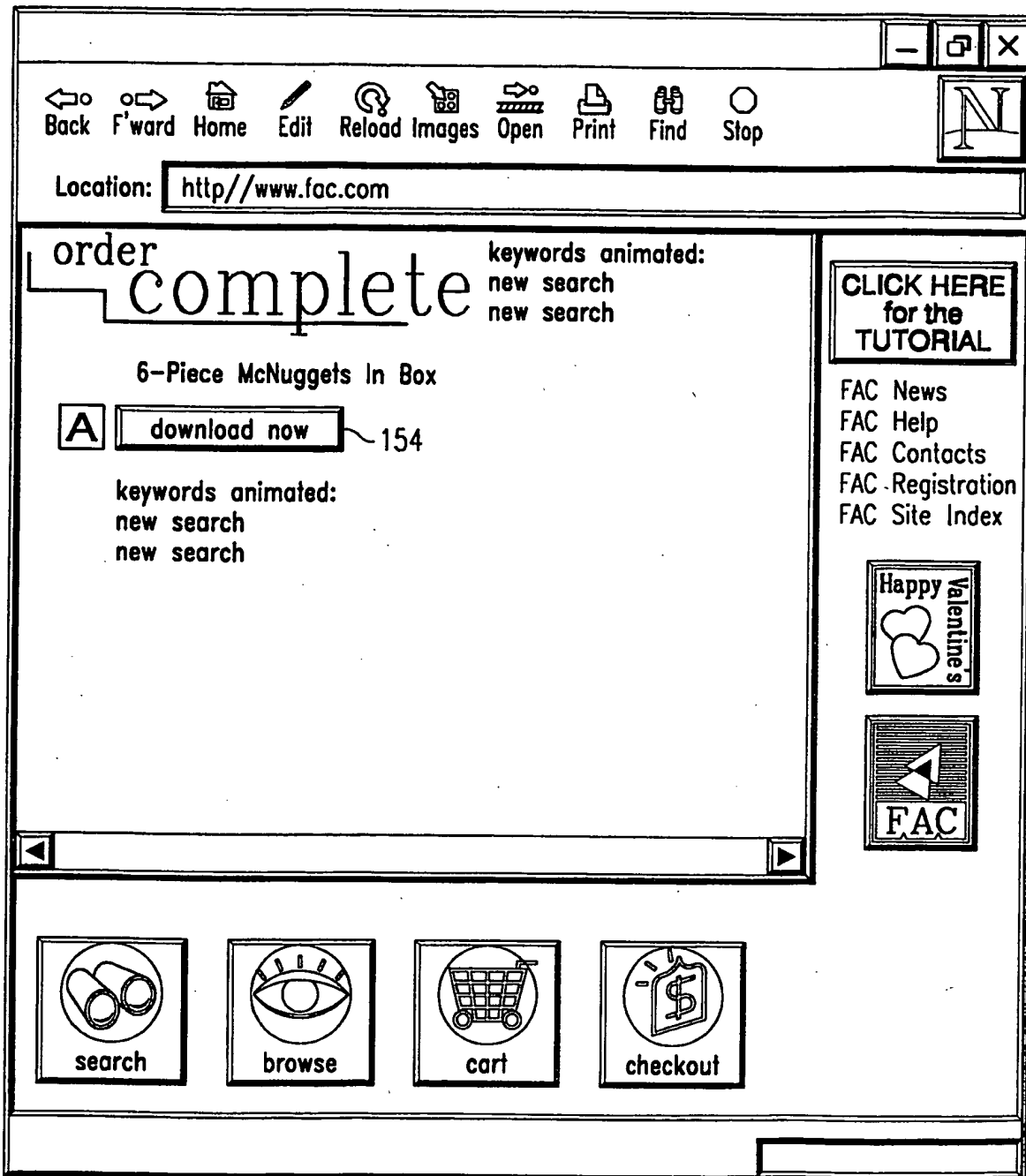


10/44

09/762578

152

FIG. 10



11/44

09/762578

FIG. 11

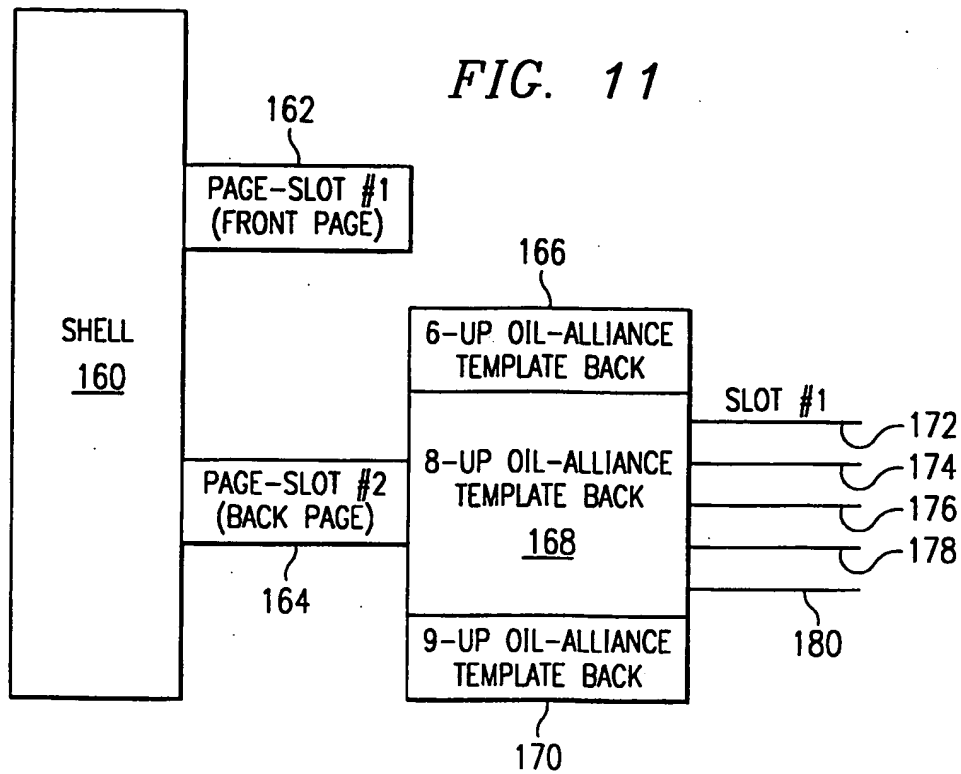
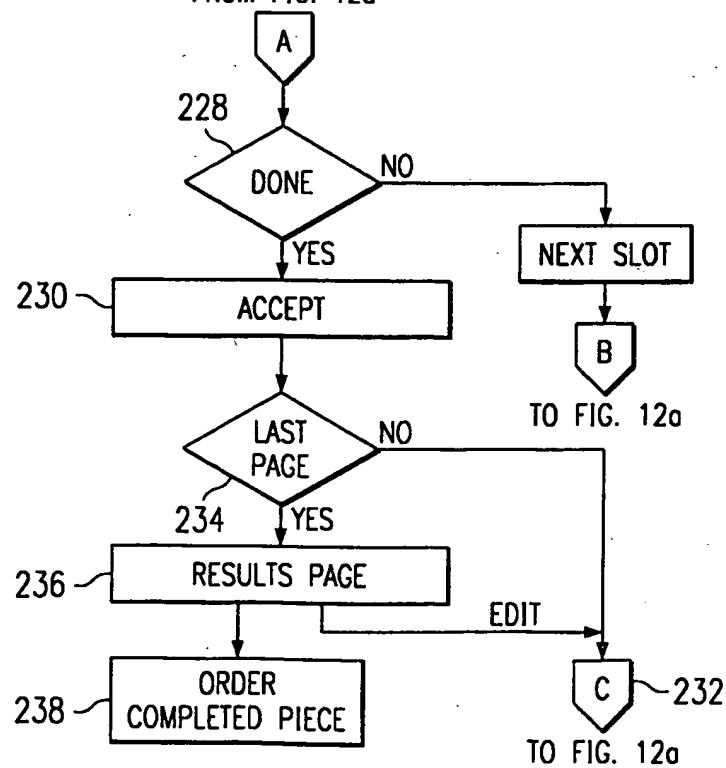


FIG. 12b

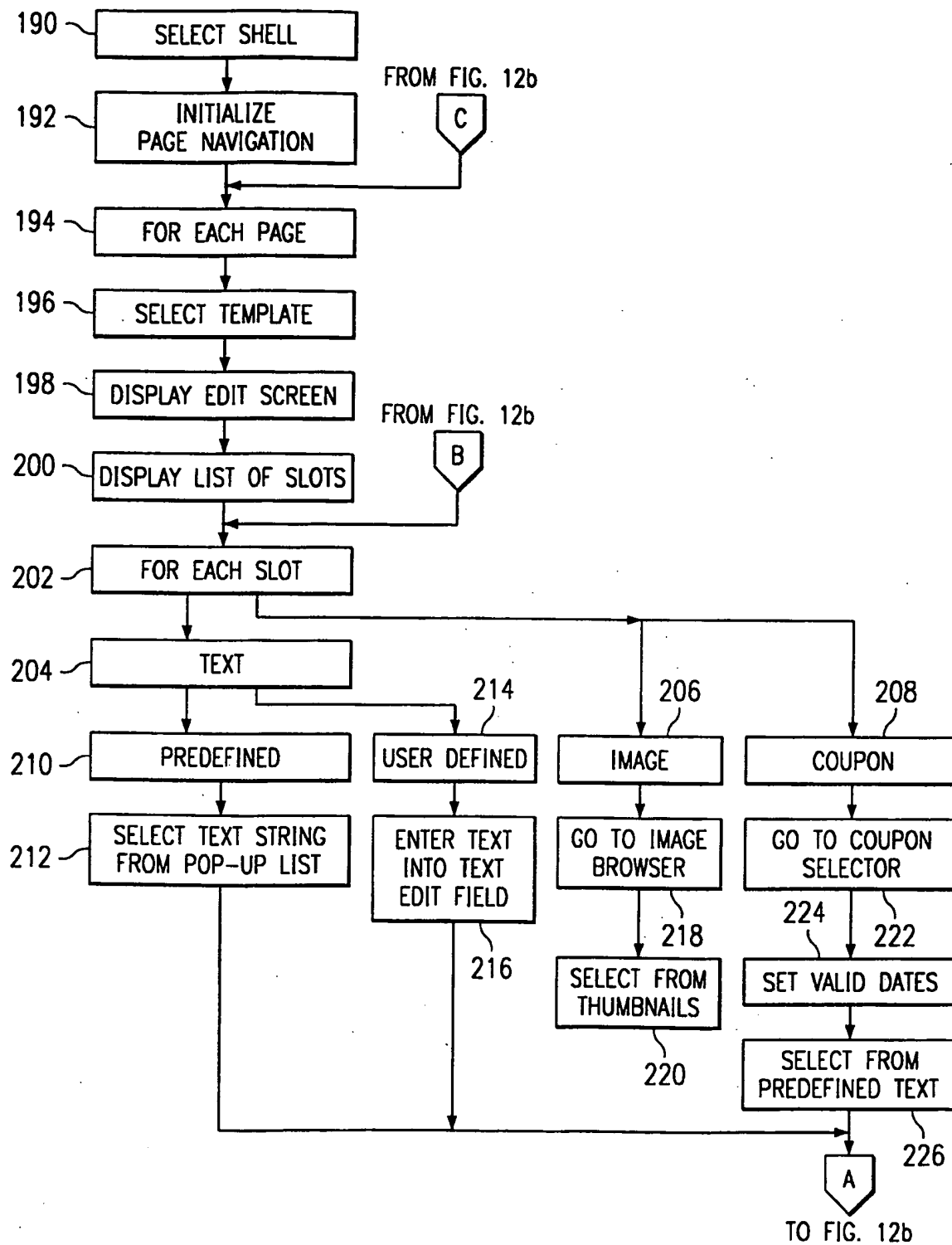
FROM FIG. 12a



12/44

09/762578

FIG. 12a





13/44

09/762578

FIG. 13

CP_UUID		UUID of Table
CP_Customer_ID		
CP_Address		UUID of address table
CP_PREFERRED_Payment Method		
CP_Credit_Card_ID		UUID of Credit Card table
CP_Billing_Address		UUID of address table
CP_Shipping_Address		ID of Ship-To Table
CP_Image_Class_ID		UUID of Class
CP_Personal_Password	<<ENCRYPTED>>	
CP_Group_Security		UUID of Group Security

FIG. 14

ST_UUID		UUID of Table
ST_Address_ID		CP_Shipping_Address
ST_Address_UUID		AD_UUID

FIG. 15

CR_UUID		UUID of Table
CR_Account Number		
CR_Card_Type		
CR_Lastname		
CR_Middle_Initial		
CR_Firstname		
CR_Expiration Date		
CR_Address1		
CR_Address2		
CR_Address3		
CR_City		
CR_State		
CR_Zip		

14/44

*FIG. 16*

AD_UUID		UUID of Table
AD_Customer_ID		
AD_Lastname		
AD_Middle_Initial		
AD_Firstname		
AD_Title		
AD_Company Name		
AD_Email Address		
AD_Address1		
AD_Address2		
AD_Address3		
AD_City		
AD_State		
AD_Zip		
AD_Phone Number		
AD_Fax Number		
AD_Store Number		

*FIG. 17*

GS_UUID		UUID of Table
GS_Group_Security_ID		Unique ID
Description		
GS_Group_Password	<<Encrypted>>	

*FIG. 18*

TP_UUID		UUID of Table
TP_Template_ID		
Description		
Start Date		
Expiration Date		

*FIG. 19*

TPS_UUID		UUID of Table
TPS_Template_ID		TP_Template_ID (repeating)
TPS_SLOT_ID		

*FIG. 20*

SI_UUID		UUID of Table
SI_Slot_ID		
SI_Image_ID		
Type of Image	I, C, Text, Template	

*FIG. 21*

CIO_UUID		
CIO_Invoice_ID		
CIO_Date_Created		
CIO_Time_Create		
CIO_Session_ID		

16/44

09/762578

*FIG. 22*

COO_UUID		UUID of Table
COO_Invoice_ID		CIO_Invoice_ID
COO_Customer_ID		CP_UUID
COO_Session_ID		SE_Session_ID
COO_Order_ID		
COO_Quantity		
COO_Cost		
COO_Order_Date		
COO_Delivery_Date		
COO_Print_Date		
COO_Date_Delivered		
COO_Date_Order_Complete		
COO_Template_ID		
COO_ShipTo		ID of COS

*FIG. 23*

COS_UUID		UUID of Table
COS_Invoice_ID		
COS_Customer_ID		
COS_Session_ID		
COS_Order_ID		
COS_Address_ID		UUID of Address Table

FIG. 24

COT_UUID		UUID of Table
COT_Template_ID		
COT_Slot_ID		
COT_Image_ID		
COT_Image_Type		
COT_Coupon_Text1		
COT_Coupon_Text2		
COT_Coupon_Text3		
COT_Coupon_Text4		
COT_Coupon_Text5		
COT_Coupon_Text6		
COT_Coupon_Text7		
COT_Coupon_Text8		
COT_Coupon_Text9		
COT_Coupon_Text10		

FIG. 25

Session ID		UUID of Table
Customer ID		correspond to customer profile table
Quantity		
Cost		
Order Date		
Delivery Date		
Print Date		
Customized Text		
Template Name		
Image Name		
Image File Path		
Image Box Name		
Text Name		
Text File Path		
Text Box Name		

*FIG. 26*

IC_UUID		UUID of Image Class
IC_ID		UNIQUE ID for Image Class
IC_Description		

*FIG. 27*

ICT_UUID		UUID of Image-Class-template
ICT_IC_ID		ID for Image Class
ICT_Template		ID for Template Profile

*FIG. 28*

SE_UUID		UUID of table
SE_Session_ID		
SE_Date		
SE_Time		
SE_Customer_ID		

*FIG. 29*

LH_UUID		
LH_Session_ID		
LH_Customer_ID		
LH_Date		
LH_Time		

19/44

FIG. 30

login

SIGN UP  
with FAC  
services

user name:

group password:


user password:

login

news  
bulletin:

Springtime Treats

Log in to see more information  
about the new Springtime Certificates.

did somebody say  ?

latest news and updates


questions and answers

contact information


change customer profile

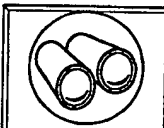
overview of the site contents

CLICK HERE  
for the  
TUTORIAL




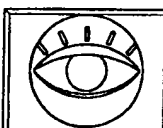
These take you to any of the key areas within the FAC Digital Image Library







search






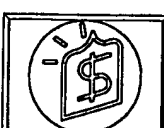
browse





cart





checkout

20/44

FIG. 31

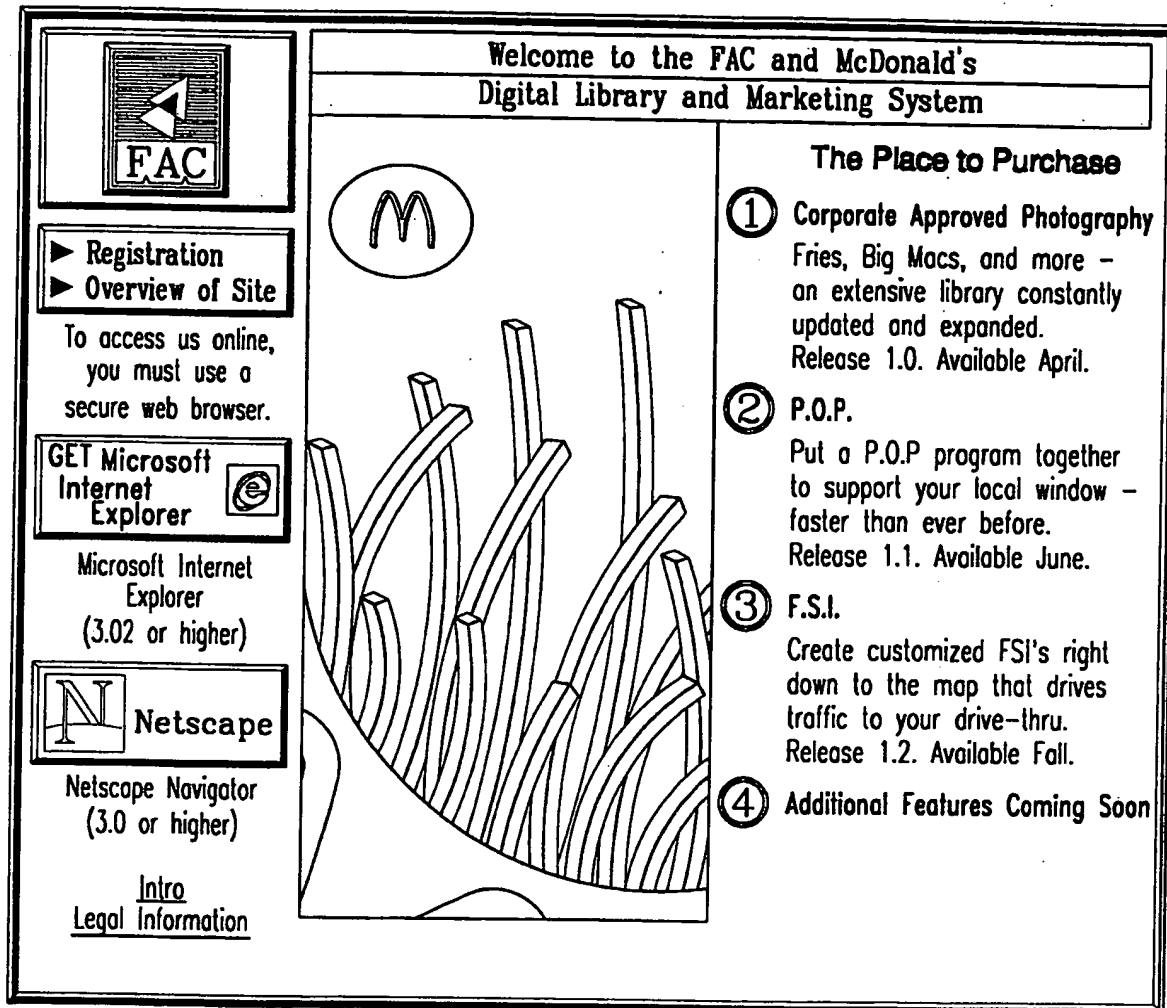
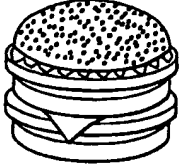
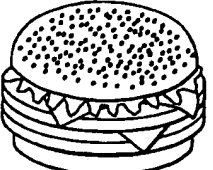
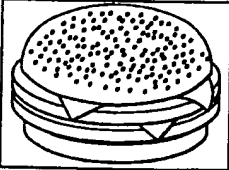
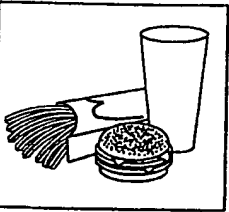





FIG. 32

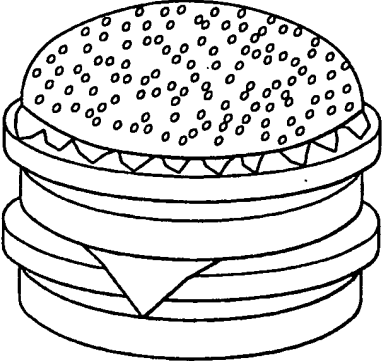
search results	
Narrow down my search for	
<input type="text" value="burgers"/>	
by also looking for	
<input type="text" value="new search"/>	<input type="text" value="search"/>
	Image # 020006 description: Big Mac Sandwich <input type="button" value="add to cart"/> <input type="button" value="see details"/>
	Image # 080504 description: Double Quarter Pounder with Cheese Sandwich <input type="button" value="add to cart"/> <input type="button" value="see details"/>
	Image # 020105 description: Quarter Pounder with Cheese Sandwich <input type="button" value="add to cart"/> <input type="button" value="see details"/>
	Image # 020127 description: Quarter Pounder with Cheese Extra Value Meal, with new Coca-Cola cup <input type="button" value="add to cart"/> <input type="button" value="see details"/>
	Image # 020128 description: Quarter Pounder with Cheese Sandwich, 97 White Format <input type="button" value="add to cart"/> <input type="button" value="see details"/>
<a href="#">see next</a>	

09/762578

22/44  
FIG. 33

image details

---



description:  
Big Mac Sandwich

Image size is 13.25" x 12.72" @ 300 ppi

Price is \$150.00

add to cart

back

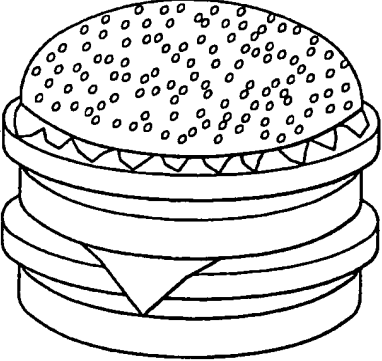
---

FIG. 34

shopping cart

Select the appropriate option for each item.  
You may continue with your search or finalize  
your order at the checkout.

---



Select a method of delivery to use,  
then choose the appropriate options:

Order a File on Disk

Order a Transparency

Big Mac Sandwich

modify order

see details

remove

---

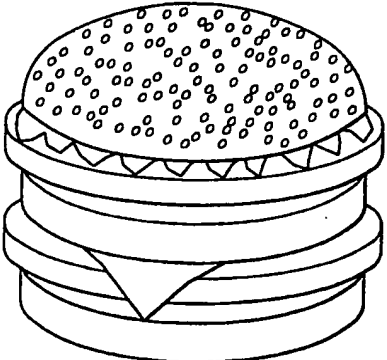
FIG. 35

shopping  
cart

Select the appropriate option for each item.  
You may continue with your search or finalize  
your order at the checkout.

---

Must specify: disk quantity, disk type, disk shipping address, where disk used,  
disk media use, disk color type, disk file format.  
When you are done specifying options, click MODIFY ORDER.



Big Mac Sandwich

☐ Download  
☐ Disk

Image Qty:

Type:

Ship To:

Location of intended use:

This image will be used:

Color profile: ☐ RGB ☐ CMYK

File format: ☐ EPS (Mac) ☐ EPS (Windows)

☐ Transparency

modify order

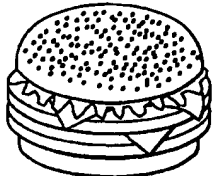
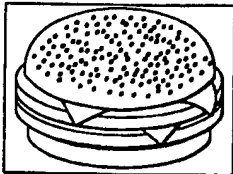
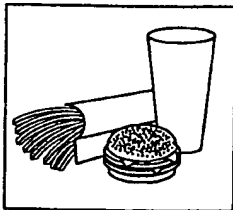

see details

remove

24/44

09/762578

FIG. 36

search results	
Narrow down my search for	
<input type="text" value="burgers"/>	
by also looking for	
<input type="text"/>	
<a href="#">new search</a>	<a href="#">search</a>
<hr/>	
IN CART	
Image # 020006	
description: Big Mac Sandwich	
<hr/>	
	Image # 080504 description: Double Quarter Pounder with Cheese Sandwich <a href="#">add to cart</a> <a href="#">see details</a>
<hr/>	
	Image # 020105 description: Quarter Pounder with Cheese Sandwich <a href="#">add to cart</a> <a href="#">see details</a>
<hr/>	
	Image # 020127 description: Quarter Pounder with Cheese Extra Value Meal, with new Coca-Cola cup <a href="#">add to cart</a> <a href="#">see details</a>
<hr/>	
	Image # 020128 description: Quarter Pounder with Cheese Sandwich, 97 White Format <a href="#">add to cart</a> <a href="#">see details</a>
<hr/>	
<a href="#">see next</a>	

# checkout confirmation

This is your final confirmation.  
Please review the information.  
Choose the "final confirmation"  
button to place the order, or  
"back" to make changes.

**Billing Information:**

Your Full Name: Don Sparks  
Title: Director  
Your Email: don\_sparks@frankel.com  
Telephone: 312-552-3561  
Company Name: Frankel  
Your Address: 111 E. Wacker  
Your City: Chicago  
Your State: IL  
Your Zip: 60601

**Image Charges:**

Big Mac Sandwich  
1 disk image Shipped to: NY Office - NY NY  
This disk image will be used in the USA on Television  
The color profile of this image is RGB  
The image format is EPS (Mac)  
The type of disk is SyQuest 200MB  
Image # 020006

Image size is 13.25" x 12.72" @300ppi

The price of 1 unit of this image at \$150.00 per unit is \$150.00

This price does not include carrier charges

Appropriate sales tax will be added

**Quarter Pounder with Cheese**

1 disk image Shipped to: NY Office - NY NY  
This disk image will be used in the USA on Television  
The color profile of this image is RGB  
The image format is EPS (Mac)  
The type of disk is SyQuest 200MB  
Image # 020105

Image size is 18.74" x 15.41" @300ppi

The price of 1 unit of this image at \$150.00 per unit is \$150.00

This price does not include carrier charges

Appropriate sales tax will be added

**Carrier Charges:**

disk order shipped to: NY Office - NY NY  
2 images on 1 SyQuest 200MB  
carrier charge for 1 is \$ 125

Total Carrier Charge: \$ 125

Total Image Charge: \$ 300

Grand Total: \$ 425

back

final confirmation

09/762578

26/44

FIG. 38

order complete

Your order has been completed.  
Items ordered through the mail  
will be shipped promptly. Print a  
copy of this page for your records.

**Billing Information:**

Your Full Name: Don Sparks  
Title: Director  
Your Email: don\_sparks@frankel.com  
Telephone: 312-552-3561  
Company Name: Frankel  
Your Address: 111 E. Wacker  
Your City: Chicago  
Your State: IL  
Your Zip: 60601

**Image Charges:****Big Mac Sandwich**

1 disk image Shipped to: NY Office - NY NY

This disk image will be used in the USA on Television

The color profile of this image is RGB

The image format is EPS (Mac)

The type of disk is SyQuest 200MB

Image # 020006

Image size is 13.25" x 12.72" @300ppi

The price of 1 unit of this image at \$150.00 per unit is \$150.00

This price does not include carrier charges

Appropriate sales tax will be added

**Quarter Pounder with Cheese**

1 disk image Shipped to: NY Office - NY NY

This disk image will be used in the USA on Television

The color profile of this image is RGB

The image format is EPS (Mac)

The type of disk is SyQuest 200MB

Image # 020105

Image size is 18.74" x 15.41" @300ppi

The price of 1 unit of this image at \$150.00 per unit is \$150.00

This price does not include carrier charges

Appropriate sales tax will be added

**Carrier Charges:**

disk order shipped to: NY Office - NY NY

2 images on 1 SyQuest 200MB

carrier charge for 1 is \$ 125

Total Carrier Charge: \$ 125

Total Image Charge: \$ 300

Grand Total: \$ 425

[back to home](#)


27/44

09/762578

FIG. 39

P.O.P. Merchandising Kits			
Home	Select	Help	Tutorial
<i>Welcome</i>			
<b>Point.Click.Merchandise</b>			
Welcome Don Sparks			
Here's your chance to put together P.O.P. faster than ever before.			
<ul style="list-style-type: none"><li>• Create a complete merchandising program in just ten clicks</li><li>• Choose from ten corporate-approved templates to begin</li><li>• Customize with the price point that drives traffic</li></ul>			
<div>Next ▶</div>			

FIG. 40

P.O.P. Merchandising Kits			
Home	Select	Help	Tutorial
 <i>Select</i>			
What region do you represent?			
<div>-select a region- ▼</div>			
<div>Go</div>			

28/44

09/762578

FIG. 41


P.O.P. Merchandising Kits			
Home	Select	Help	Tutorial
 <i>Select</i>			
Which co-op are you placing an order for?			
<div>-select a co-op- ▼</div>			
<div>⏵ Go</div>			

FIG. 42



P.O.P. Merchandising Kits			
Home	Select	Help	Tutorial
 <i>Select</i>			
Which local timeframe are you ordering for?			
<div>-select a timeframe- ▼</div>			
<div>⏵ Go</div>			

FIG. 43

P.O.P. Merchandising Kits			
Home	Select	Help	Tutorial
 <i>Select</i>			
Pick the product you are promoting.			
<div>① Regular Menu</div>		or	<div>② Breakfast</div>
<div>-select a product- ▼</div>			<div>-select a product- ▼</div>
<div>⏵ Go</div>			<div>⏵ Go</div>



29/44

FIG. 44



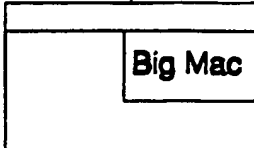
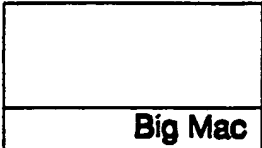
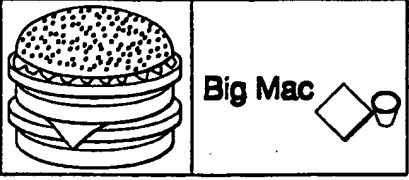
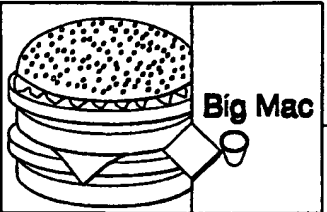
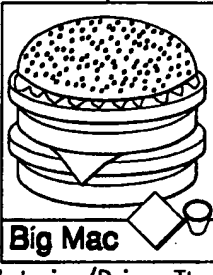

P.O.P. Merchandising Kits	
Home	Select
 <i>Details</i>	
<b>Exterior</b> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  302 Rooftop Banner         </div> <div style="text-align: center;">  306 Pump Topper         </div> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  304 Window Decal         </div> </div>	<p>You have chosen Big Mac</p> <p>The following P.O.P. elements are available in support of a Big Mac promotion:</p> <ul style="list-style-type: none"> <li>Exterior             <ul style="list-style-type: none"> <li>Rooftop Banner</li> <li>Pump Topper</li> </ul> </li> <li>Window             <ul style="list-style-type: none"> <li>Window Decal</li> </ul> </li> <li>Interior             <ul style="list-style-type: none"> <li>Super Translite</li> <li>Translite</li> <li>Register Topper</li> </ul> </li> <li>Drive-Thru             <ul style="list-style-type: none"> <li>Translite</li> </ul> </li> </ul>
<b>Interior</b> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  308 Super Translite         </div> <div style="text-align: center;">  310 Register Topper         </div> </div> <div style="text-align: center;">  312 Interior/Drive-Thru Translite         </div>	
<div style="display: flex; justify-content: flex-end; gap: 20px;"> <div>cancel</div> <div>accept</div> </div>	

FIG. 45

P.O.P. Merchandising Kits	
Home	Select
 <i>Select</i>	
<p>Please choose a price.</p> <p>What price would you like printed on the exterior elements and window decal?</p> <div style="text-align: right;"> <div style="border: 1px solid black; padding: 2px; display: inline-block;">             -select a price-           </div> <div style="border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;">             ▼           </div> </div> <div style="text-align: right; margin-top: 10px;"> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;">             Go           </div> </div>	

30/44

FIG. 46



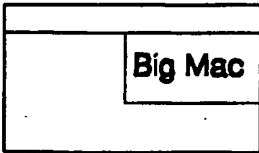

P.O.P. Merchandising Kits			
Home	Select	Help	Tutorial
 <i>Details</i>			
Confirm Price with Elements			
		← Rooftop Banner	99¢
		← Pump Topper	99¢
		← Window Decal	99¢
		<input type="button" value="cancel"/>	<input type="button" value="accept"/>

FIG. 47


P.O.P. Merchandising Kits			
Home	Select	Help	Tutorial
 <i>Select</i>			
Please choose a price. What price would you like printed on your interior and drive-thru elements?			
		<input type="button" value="-select a price-"/> ▼	
		<input type="button" value="Go"/>	

FIG. 48



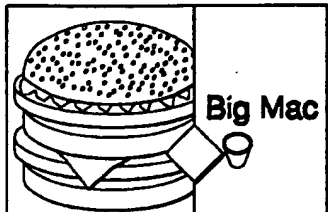
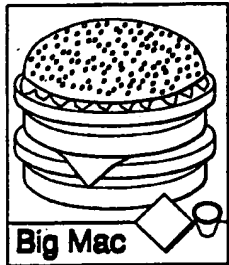
P.O.P. Merchandising Kits	
Home	Select
Help	Tutorial
 <i>Details</i>	
<b>Confirm Price with Elements</b>	
	Super Translite \$2.99
	Register Topper \$2.99
	Interior/Drive-Thru Translite \$2.99
<input type="button" value="cancel"/> <input type="button" value="accept"/>	

FIG. 49

P.O.P. Merchandising Kits			
Home	Select	Help	Tutorial
<i>Order Information</i>			
Choose Your Method of Production and Distribution			
<input checked="" type="checkbox"/> <b>Worldwide</b>			
<ul style="list-style-type: none"><li>• Frankel will deliver your approved file to Worldwide</li><li>• Worldwide will produce, pack to the store specifications based on store profiles, ship and bill</li><li>• The cost structure of this scenario is:</li></ul>			
\$ per kit			
<input type="checkbox"/> <b>Locally produced/distributed</b>			
<ul style="list-style-type: none"><li>• Frankel will ship your approved file to the production destination of your choice</li><li>• You assume liability for the final production quality and distribution</li><li>• The cost of this scenario is:</li></ul>			
\$ for creative file, proofing and shipping			
<input type="button" value="cancel"/>		<input type="button" value="accept"/>	

33/44

09/762578  
FIG. 49a

P.O.P. Merchandising Kits			
Home	Select	Help	Tutorial
<i>Billing Information</i>			
<b>P.O. Billing Information</b>			
Company:			
<input type="text" value="Frankel &amp; Co."/>			
P.O. Contact Name:			
<input type="text" value="Don Sparks"/>			
Your Name:			
<input type="text" value="Don Sparks"/>			
P.O. Contact Telephone:			
<input type="text" value="312-552-5000"/>			
P.O. Number:			
<input type="text" value="1234567890"/>			
		<input checked="" type="checkbox"/> I understand that this transaction is subject to the rules and procedures found in the disclaimer	
		<input type="button" value="reset"/>	<input type="button" value="submit"/>

FIG. 50

P.O.P. Merchandising Kits			
Home	Select	Help	Tutorial
<i>Order Information</i>			
<b>Shipping address for proof</b>			
Proof will be sent overnight via Fed Ex			
Attention Name:			
<input type="text" value="Don Sparks"/>			
Address:			
<input type="text" value="111 East Wacker Drive"/>			
City:	State:	Zip:	
<input type="text" value="Chicago"/>	<input type="text" value="IL"/>	<input type="text" value="60601"/>	
Telephone:	<input type="text" value="312-552-5000"/>		
<div>Special Shipping Instructions</div> <div><input type="button" value="cancel"/> <input type="button" value="accept"/></div>			

FIG. 51

P.O.P. Merchandising Kits			
Home	Select	Help	Tutorial
<i>Order Confirmation</i>			
P.O.P. Merchandising Kits			
Region:	South Florida	<div>This is your final confirmation. Please review the information. Choose the "final order" button to place the order or "cancel" to make changes.</div>	
Co-op:	So. Florida Miami/Ft. Lauderdale		
TimeFrame:	November 1998		
Product:	Big Mac		
Kit Elements:			
Exterior:	Rooftop Banner		
	Pump Topper		
Window:	Window Decal		
Interior:	Super Translite		
	Translite		
	Register Topper		
Drive-Thru:	Translite		
Exterior Price:	99¢		
Interior Price:	\$2.99		
Print Qty:	100		
Distribution Method:	Worldwide		
Name:	Don Sparks		
Title:	Managing Director		
Address 1:	111 East Wacker Drive		
Address 2:	Floor 23		
City:	Chicago		
State:	IL		
Zip:	60601		
Telephone:	312-552-5000		
Email:	don_sparks@frankel.com		
P.O. Billing Information			
Company:	Frankel & Co.		
P.O. Contact Name:	Don Sparks		
P.O. Contact Telephone:	312-552-5000		
P.O. Number:	1234567890		
<input type="button" value="cancel"/>		<input type="button" value="accept"/>	

FIG. 52

P.O.P. Merchandising Kits			
Home	Select	Help	Tutorial
<i>Order Confirmation</i>			
P.O.P. Merchandising Kits			
Region:	South Florida	<div>This is your final confirmation. Please review the information. Choose the "final order" button to place the order or "cancel" to make changes.</div>	
Co-op:	So. Florida Miami/Ft. Lauderdale		
TimeFrame:	November 1998		
Product:	Big Mac		
Kit Elements:			
Exterior:	Rooftop Banner Pump Topper		
Window:	Window Decal		
Interior:	Super Translite Translite Register Topper Translite		
Drive-Thru:	Translite		
Exterior Price:	99¢		
Interior Price:	\$2.99		
Print Qty:	100		
Distribution Method:	Worldwide		
Name:	Don Sparks		
Title:	Managing Director		
Address 1:	111 East Wacker Drive		
Address 2:	Floor 23		
City:	Chicago		
State:	IL		
Zip:	60601		
Telephone:	312-552-5000		
Email:	don_sparks@frankel.com		
P.O. Billing Information			
Company:	Frankel & Co.		
P.O. Contact Name:	Don Sparks		
P.O. Contact Telephone:	312-552-5000		
P.O. Number:	1234567890		
<input type="button" value="cancel"/>		<input type="button" value="accept"/>	

FIG. 53

P.O.P. Merchandising Kits			
Home	Select	Help	Tutorial
<i>Order Confirmation</i>			
P.O.P. Merchandising Kits			
Region:	South Florida	<div>Your order has been completed. Print this page for your records.</div> <div>INVOICE: <input type="button" value="print"/></div> <div>316</div>	
Co-op:	So. Florida Miami/Ft. Lauderdale		
TimeFrame:	November 1998		
Product:	Big Mac		
Kit Elements:			
Exterior:	Rooftop Banner		
	Pump Topper		
Window:	Window Decal		
Interior:	Super Translite		
	Translite		
	Register Topper		
Drive-Thru:	Translite		
Exterior Price:	99¢		
Interior Price:	\$2.99		
Print Qty:	100		
Distribution Method:	Worldwide		
Name:	Don Sparks		
Title:	Managing Director		
Address 1:	111 East Wacker Drive		
Address 2:	Floor 23		
City:	Chicago		
State:	IL		
Zip:	60601		
Telephone:	312-552-5000		
Email:	don_sparks@frankel.com		
P.O. Billing Information			
Company:	Frankel & Co.		
P.O. Contact Name:	Don Sparks		
P.O. Contact Telephone:	312-552-5000		
P.O. Number:	1234567890		
<input type="button" value="back to FAC home page"/>			




FIG. 54

**DirectResponse**  
SHELLS


► Customer Profile ► Contacts

Home Browse Help Tutorial


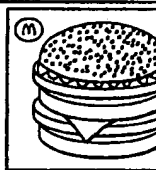
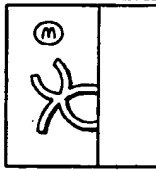
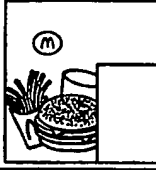
FrontSide  Browse

Select the template style

search by keyword

 Go

320


	Newspaper Inserts (FSI) This template highlights: Seasonal/Food Oil Alliance	<input type="button" value="select"/>
	Newspaper Inserts (FSI) This template highlights: Seasonal/Food	<input type="button" value="select"/>
	Newspaper Inserts (FSI) This template highlights: Events/Grand Opening	<input type="button" value="select"/>
	Direct Mail (solo mail) This template highlights: Seasonal/Food Oil Alliance	<input type="button" value="select"/>

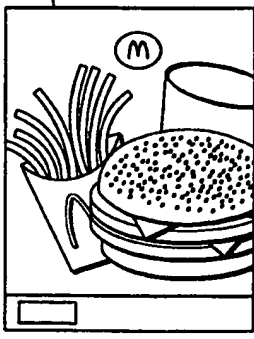
38/44

FIG. 55

**DirectResponse** SHELLS **FAC**

Home Browse Help Tutorial

Selected template style: **FrontSide**  **Edit**  
 Edit the Template

320  Fly through our drive-thru! ▼

Extra Value meal (fries, Big Mac, and Coke) |  
 change image

When you're on the go ▼

Select an oil alliance ▼


Seasonal/Food Oil Alliance


cancel accept 322

FIG. 56

**DirectResponse** SHELLS **FAC**

Home Browse Help Tutorial

Selected template style: **BackSide**  **Browse**  
 Select one template

 Newspaper inserts (FSI)  
 Seasonal/Food Oil Alliance

Violator:  
 Fly thru our drive-thru!

Main Picture:  
 Quarter Pounder with  
 Cheese Extra Value Meal

Oil Alliance:  
 Chevron

Headline:  
 When you're on the go

FPO	FPO	FPO
○		○
○		○
○		○

6 coupons  
backside

select

FPO	FPO	FPO
○	○	○
○	○	○
○	○	○

9 coupons  
backside

select

FPO	FPO	FPO
○		○
○		○
○		○

8 coupons  
backside


select





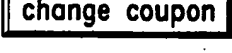

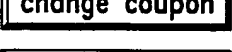
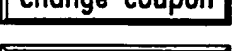
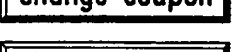
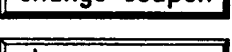
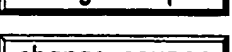


cancel

FIG. 57

**DirectResponse**  
SHELLS

Home Browse Help Tutorial

Selected template style: **BackSide**  *Edit*  
Edit the Template

1 Select image   
2 Select map/image   
3 Select store message/image   
4 1 select coupon   
5 2 select coupon   
6 3 select coupon   
7 4 select coupon   
8 5 select coupon   
9 6 select coupon   
10 7 select coupon   
11 8 select coupon   
12 9 select coupon   
13 When you're on the go 

FPO	FPO	FPO
1 ○	2 ○	3 ○
4 ○	5 ○	6 ○
7 ○	8 ○	9 ○

Enter coupon valid dates:  
12/12/98

Enter coupon valid location(s):  
Chicagoland/  
Northwest Indiana

Maximum of XX character spaces.

cancel accept

FIG. 58

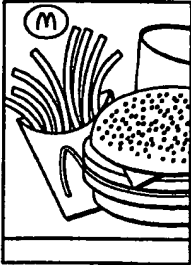

<i>DirectResponse</i> SHELLS		FAC												
<a href="#">Home</a>	<a href="#">Browse</a>	<a href="#">Help</a>												
<a href="#">Tutorial</a>														
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>Front side</b></p> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p><b>Newspaper inserts (FSI)</b></p> <p>Seasonal/Food Oil Alliance</p> </div> </div> <p><b>Violator:</b> Grab an Extra Value Meal!</p> <p><b>Main Picture:</b> Quarter Pounder with Cheese Extra Value Meal</p> <p><b>Oil Alliance:</b> Chevron</p> <p><b>Headline:</b> When you're on the go</p> </div> <div style="width: 45%;"> <p><b>Back side</b></p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px;">FPO</td> <td style="padding: 2px;">FPO</td> <td style="padding: 2px;">FPO</td> </tr> <tr> <td style="height: 20px;">○</td> <td style="height: 20px;">○</td> <td style="height: 20px;">○</td> </tr> <tr> <td style="height: 20px;">○</td> <td style="height: 20px;">○</td> <td style="height: 20px;">○</td> </tr> <tr> <td style="height: 20px;">○</td> <td style="height: 20px;">○</td> <td style="height: 20px;">○</td> </tr> </table> <p>9 coupon back</p> <p><b>First image:</b> Big Mac</p> <p><b>Second image:</b> Map</p> <p><b>Third image:</b> Charge it</p> <p><b>Headline:</b> When you're on the go</p> </div> </div>		FPO	FPO	FPO	○	○	○	○	○	○	○	○	○	<div style="text-align: center; padding-bottom: 10px;">  <span style="font-size: 1.5em; font-family: cursive;"><i>Result</i></span> </div> <div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px; margin: 5px; width: 150px;">order the template</div> <div style="border: 1px solid black; padding: 5px; margin: 5px; width: 150px;">detail preview</div> <div style="border: 1px solid black; padding: 5px; margin: 5px; width: 150px;">edit</div> <div style="border: 1px solid black; padding: 5px; margin: 5px; width: 150px;">cancel</div> </div>
FPO	FPO	FPO												
○	○	○												
○	○	○												
○	○	○												

FIG. 59

DirectResponse SHELLS		FAC	
Home	Browse	Help	Tutorial
<b>Order Information</b>		<b>Special shipping instructions</b> <input type="button" value="send e-mail"/>	
<b>Shipping address</b>			
Attention Name: <input type="text" value="Don Sparks"/>			
Title: <input type="text" value="Managing Director"/>			
Address Line 1: <input type="text" value="111 East Wacker Drive"/>			
Address Line 2: <input type="text" value="Floor 23"/>			
City: <input type="text" value="Chicago"/>	State: <input type="text" value="IL"/>	Zip: <input type="text" value="60601"/>	Print Qty: <input type="text" value="2000"/>
Telephone: <input type="text" value="3125525000"/>	Email Address: <input type="text" value="don_sparks@frank"/>	Proofing <input checked="" type="checkbox"/> Priority Overnight <input type="checkbox"/> Standard Overnight <input type="checkbox"/> 2nd Day <input type="checkbox"/> Saver Shipping	
<input type="button" value="reset"/> <input type="button" value="submit"/>			

09/762578

42/44

FIG. 60

<b>DirectResponse</b> <small>SHELLS</small>		<b>FAC</b>	
Home	Browse	Help	Tutorial

### Billing Information

You may select one payment method only

**① Credit Card Statement Billing Address:**

<p>Attention Name: <input type="text" value="Don Sparks"/></p> <p>Title: <input type="text" value="Managing Director"/></p> <p>Address Line 1: <input type="text" value="111 East Wacker Drive"/></p> <p>Address Line 2: <input type="text" value="Floor 23"/></p> <table style="width: 100%;"><tr><td>City: <input type="text" value="Chicago"/></td><td>State: <input type="text" value="IL"/></td><td>Zip: <input type="text" value="60601"/></td></tr></table> <p>Telephone: <input type="text" value="3125525000"/></p> <p>Email Address: <input type="text" value="don_sparks@frank"/></p>	City: <input type="text" value="Chicago"/>	State: <input type="text" value="IL"/>	Zip: <input type="text" value="60601"/>	<p>Type of Card <input checked="" type="checkbox"/> Visa <input type="checkbox"/> Mastercard</p> <p>Number: <input type="text" value="0000 0000 0000 0000"/></p> <p>Expiration Date: <input type="text" value="00/98"/></p> <p>Full name as it appears on the card <input type="text" value="Don Sparks"/></p> <p>Your name, if it is different from the name on the card <input type="text"/></p> <p><input type="checkbox"/> I understand that this transaction is subject to the rules and procedures found in the disclaimer</p> <div style="text-align: center;"><input type="button" value="reset"/> <input type="button" value="submit"/></div>
City: <input type="text" value="Chicago"/>	State: <input type="text" value="IL"/>	Zip: <input type="text" value="60601"/>		

**② P.O. Billing Information:**

<p>Company: <input type="text"/></p> <p>P.O. Contact Name: <input type="text"/></p> <p>Your Name: <input type="text"/></p> <p>P.O. Contact Telephone: <input type="text"/></p> <p>P.O. Number: <input type="text"/></p>	<p><input type="checkbox"/> I understand that this transaction is subject to the rules and procedures found in the disclaimer</p> <div style="text-align: center;"><input type="button" value="reset"/> <input type="button" value="submit"/></div>
---	---

43/44

FIG. 61

<b>DirectResponse</b> <small>SHELLS</small>		<b>FAC</b>	
<a href="#">Home</a>	<a href="#">Browse</a>	<a href="#">Help</a>	<a href="#">Tutorial</a>
<h3 style="margin: 0;">OrderConfirmation</h3> <div style="display: flex; justify-content: space-between; align-items: flex-start;"><div style="width: 80%;"><p><b>Direct Response Shells</b> <b>Newspaper Inserts (FSI)</b></p><p><b>Highlighting:</b> Seasonal/Food; Oil Alliance</p><p><b>Frontside:</b></p><p style="margin-left: 20px;"><b>Headline:</b> Really Hungry?</p><p style="margin-left: 20px;"><b>Image:</b> Quarter Pounder with Cheese Extra Value Meal</p><p style="margin-left: 20px;"><b>Oil Alliance:</b> Chevron</p><p style="margin-left: 20px;"><b>Violator:</b> Grab on Extra Value Meal!</p><p><b>Backside:</b></p><p style="margin-left: 20px;"><b>First Image:</b> Big Mac</p><p style="margin-left: 20px;"><b>Second Image:</b> Map</p><p style="margin-left: 20px;"><b>Third Image:</b> Charge It</p><p style="margin-left: 20px;"><b>Headline:</b> When you're on the go</p><p style="margin-left: 20px;"><b>Coupons:</b> Nine</p><p><b>Print Qty:</b> 2000</p><p><b>Name:</b> Don Sparks</p><p><b>Title:</b> Managing Director</p><p><b>Address 1:</b> 111 East Wacker Drive</p><p><b>Address 2:</b> Floor 23</p><p><b>City:</b> Chicago</p><p><b>State:</b> IL</p><p><b>Zip:</b> 60601</p><p><b>Telephone:</b> 312-552-5000</p><p><b>Email:</b> don_sparks@frankel.com</p><p><b>Type of Card:</b> Visa</p><p><b>Number:</b> 0000 0000 0000 0000</p><p><b>Expiration Date:</b> 00/98</p></div><div style="width: 15%; border: 1px solid black; border-radius: 10px; padding: 10px; text-align: center; font-size: 0.9em;"><p>This is your final confirmation. Please review the information. Choose the "final order" button to place the order or "cancel" to make changes.</p></div></div>			

cancel

final order

FIG. 62

Direct Response SHELLS		FAC	
Home	Browse	Help	Tutorial
<b>Order Complete</b>		<div>Your order has been completed. Print this page for your records. INVOICE: <input type="button" value="print"/></div>	
<div>Direct Response Shells Newspaper Inserts (FSI) Highlighting: Seasonal/Food; Oil Alliance Frontside:     Headline: Really Hungry?     Image: Quarter Pounder with             Cheese Extra Value Meal      Oil Alliance: Chevron     Violator: Grab an Extra Value Meal! Backside:     First Image: Big Mac     Second Image: Map     Third Image: Charge It     Headline: When you're on the go     Coupons: Nine Print Qty: 2000 Name: Don Sparks Title: Managing Director Address 1: 111 East Wacker Drive Address 2: Floor 23 City: Chicago State: IL Zip: 60601 Telephone: 312-552-5000 Email: don_sparks@frankel.com Type of Card: Visa Number: 0000 0000 0000 0000 Expiration Date: 00/98</div>			
<input type="button" value="back to FAC home page"/>			



# INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US 99/12179

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 G06F17/21

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 04988 A (MOORE BUSINESS FORMS INC) 5 February 1998 (1998-02-05)  page 5, line 10 - page 8, line 20 page 19, line 19 - page 25, line 2 ---	1,3-5,7, 8,10,11, 14
X	EP 0 814 425 A (SCITEX DIGITAL PRINTING INC) 29 December 1997 (1997-12-29) column 2, line 29 - column 3, line 18 column 4, line 10 - column 7, line 45 ---	1,3-8, 10,11,13
A	EP 0 674 277 A (ADOBE SYSTEMS INC) 27 September 1995 (1995-09-27) column 6, line 9 - column 9, line 21 ---	1-14
A	WO 98 10356 A (DESIGN INTELLIGENCE INC) 12 March 1998 (1998-03-12) page 1, line 11 - page 6, line 2 -----	1-14

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

9 September 1999

Date of mailing of the international search report

16/09/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Bowler, A

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 99/12179

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9804988 A	05-02-1998	AU 3727597 A EP 0857335 A	20-02-1998 12-08-1998
EP 0814425 A	29-12-1997	AU 2493297 A CA 2207840 A JP 10091621 A	08-01-1998 18-12-1997 10-04-1998
EP 0674277 A	27-09-1995	US 5666543 A AU 1500395 A CA 2145216 A JP 8083337 A	09-09-1997 05-10-1995 24-09-1995 26-03-1996
WO 9810356 A	12-03-1998	US 5895476 A US 5903902 A US 5895477 A AU 4334197 A EP 0925542 A	20-04-1999 11-05-1999 20-04-1999 26-03-1998 30-06-1999